

Final Rule Register

**Friday
November 29, 1985**

EPA/530-SW-85-034

Part II

Environmental Protection Agency

**40 CFR Parts 260, 261, 264, 265, 266,
270, 271, and 302**

**Hazardous Waste Management System;
Used Oil; Final Rule and Proposed Rules**



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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 261, 264, 265, 266, and 271

[SWH-FRL 2910-1]

Hazardous Waste Management System; Burning of Waste Fuel and Used Oil Fuel in Boilers and Industrial Furnaces

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: On January 11, 1985, EPA proposed under Subtitle C of the Resource Conservation and Recovery Act (RCRA) to begin regulation of hazardous waste and used oil burned for energy recovery in boilers and industrial furnaces. The proposal provided administrative controls for those persons who market and burn hazardous waste and used oil fuels. Most of the requirements are being finalized as proposed, but some modifications have been made in response to comment.

The final rule prohibits the burning in nonindustrial boilers of both hazardous waste fuel and of used oil that does not meet specification levels for certain hazardous contaminants and flash point. It also provides administrative controls to keep track of marketing and burning activities. These controls include notification to EPA of waste-as-fuel activities, use of a manifest, or, for used oil, an invoice system for shipments, and recordkeeping. Hazardous waste fuels, including processed or blended hazardous waste fuels, are also subject to storage requirements.

DATES: Effective Dates: The effective dates for the regulations are:

1. *Prohibitions.* The prohibitions on marketing and burning of hazardous waste fuel and off-specification used oil fuel in nonindustrial boilers in §§ 266.31(a) (2) and (b), and 266.41 (a) (2) and (b) are effective on December 9, 1985. To implement and enforce the prohibitions, the following provisions are also effective on December 9, 1985:

(a) The used oil fuel specification in §266.40(c), except for the specification level for lead which is effective May 29, 1988.

(b) The rebuttable presumption of mixing hazardous halogenated wastes with used oil in §266.40(c); and

(c) The used oil analysis requirements and attendant record keeping requirements in §§266.43(b) (1) and (6), and 266.44 (d) and (e);

2. *Storage Controls.* The storage controls for hazardous waste fuels in

§§266.34(c) and 266.35(c) are effective on May 29 1988; and

3. *All Other Provisions.* The effective date for all other provisions of these regulations (e.g., manifests and, for off-specification used oil fuel, invoice requirements for shipments; certification notices to suppliers; and recordkeeping of manifests or invoices, and certification notices) is March 31, 1988. At that time, the manifest or invoice requirements supersede and apply in lieu of the warning label requirements of RCRA section 3004(r).

Compliance Dates: The compliance dates for the regulation are:

1. *Notification.* Marketers and burners of hazardous waste fuel and off-specification used oil fuel are required to notify EPA regarding their waste-as-fuel activities under §§ 266.34(b), 266.35(b), 266.43(b)(3), and 266.44(b). These persons must so notify either EPA or States authorized by EPA to operate the hazardous waste program by January 29, 1988; and

2. *Submission of Part A Permit Applications.* All existing marketers and burners (see provisions in 40 CFR 270.2 and 270.70(a)) who store hazardous waste fuels and who are not currently operating pursuant to interim status (section 3005(e) of RCRA), must file a notification of their storage activities with EPA by January 29, 1988 and submit a Part A permit application to EPA by May 29, 1988.

In addition, marketers and burners already operating pursuant to interim status, but who operate existing hazardous waste fuel storage facilities newly subject to regulation by today's rule, must file a notification of their storage activities with EPA by January 29, 1988 and submit an amended Part A permit application to EPA (with an informational copy to the authorized State) by May 29, 1988.

Explanation for these effective dates and compliance dates is provided in Part Five, section III of this preamble.

ADDRESSES: The official record for this rulemaking is in Room S-212, U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. The record may be viewed from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: RCRA Hotline, toll free, at (800) 424-9348 or (202) 382-3000. For Technical information, contact Robert Holloway, Waste Combustion Program, Waste Management and Economics Division, Office of Solid Waste, WH-565A, U.S. Environmental Protection Agency, 401 M St. SW., Washington, DC 20460. Telephone: (202) 382-7917. Single copies

of the final rule can be obtained by calling the RCRA Hotline number above.

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Today's preamble is organized into five major sections. Part I contains background information that summarizes major provisions of the rule. It also describes how the rule fits into the Agency's strategy for regulating other types of used oil recycling and disposal and for regulating the actual burning of hazardous waste and off-specification used oil in industrial boilers and industrial furnaces. In addition, this section discusses nonregulatory approaches to the problems considered by EPA.

Part II describes when a waste is burned for energy recovery and identifies those hazardous wastes and used oils subject to this regulation. It also discusses the basis for exempting a number of waste-derived fuels and for not exempting others. In addition, it describes the test for distinguishing between used oil and hazardous waste fuels. Further, this section defends the risk assessment used to identify used oil constituents included in the specification, and explains the basis for the final specification. Finally, this section responds to a number of comments regarding allowing the blending of used oil fuel to meet the specification, availability of analytical procedures for used oil, and the regulatory status of combustion residuals.

Part III identifies those boilers and industrial furnaces subject to this regulation and explains the basis for

regulating nonindustrial boilers immediately. It also discusses how nonindustrial boilers can continue to burn hazardous waste under permit standards for hazardous waste incinerators. Finally, this section discusses controls for used oil space heaters and EPA's intent to provide additional controls for these devices in future rulemakings.

Part IV discusses the administrative controls on marketers and burners that provide a tracking system for shipments and otherwise provide for implementation and enforcement of the prohibitions. This section also discusses the basis for applying the storage standards to all hazardous waste fuels and general permit procedures. Finally, this section provides examples of how the rule operates.

Part V discusses how the rules operate immediately, even in states authorized to operate the hazardous waste program. This section also discusses the economic impacts on the regulated community, and particularly, the used oil recycling industry.

PART ONE: BACKGROUND

I. Legal Authority

These regulations are promulgated today under the authority of sections 1006, 2002(a), 3001, 3002, 3003, 3004, 3005, 3007, 3010, and 3014 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, the Quiet Communities Act of 1978, the Solid Waste Disposal Act Amendments of 1980, the Used Oil Recycling Act of 1980, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6905, 6912(a), 6921, 6922, 6923, 6924, 6925, 6927, 6930, and 6932.

II. Overview of the Final Rule

With today's rulemaking, EPA begins to regulate those hazardous wastes and used oil that are marketed and burned for energy recovery. The chief purpose of these rules is to prohibit the burning of hazardous waste and contaminated used oil in nonindustrial boilers. The prohibitions are implemented and enforced by placing administrative controls on marketers and burners of these fuels.

Today's rule also establishes a rebuttable presumption that used oil that contains more than 1000 ppm total halogens is mixed with halogenated hazardous waste and, therefore, is a hazardous waste. The presumption may be rebutted by showing the used oil has not been mixed with hazardous wastes (e.g., by showing it does not contain significant levels of halogenated

hazardous constituents). Used oil presumed to be mixed with hazardous waste is subject to regulation as hazardous waste fuel when burned for energy recovery.

In addition, the rule establishes a specification for used oil fuel (i.e., used oil not mixed with hazardous waste) that is essentially exempt from all regulation and may be burned in nonindustrial boilers. The specification sets allowable levels for designated toxic constituents, flash point, and total halogens.

Burning of hazardous waste fuel and off-specification used oil fuel in industrial and utility boilers and industrial furnaces continues to be exempt from regulation. The Agency intends to regulate such burning under permit standards to be proposed in 1986, as discussed below.

Administrative requirements such as notification, receipt of identification number, and compliance with manifest or invoice (for off-specification used oil fuel) systems are being promulgated today to enforce the prohibitions on burning of hazardous waste fuel and off-specification used oil in nonindustrial boilers.

Today's rule also applies RCRA hazardous waste storage standards to facilities storing hazardous waste fuels. Such waste-derived fuels have heretofore been exempt (on an interim basis) from storage standards when produced by a person other than the generator. See §§ 266.30(a) and 266.34(c), 50 FR at 667 (January 4, 1985).

Several modifications have been made to the proposed rule in response to comments. These include: the rebuttable presumption of mixing hazardous halogenated solvents with used oil is based on a total halogen level of 1000 ppm rather than a total chlorine level of 4000 ppm; a specification for total halogens is added to the used oil fuel specification at a level of 4000 ppm; and the effective date of the lead specification level (set at 100 ppm) is deferred for six months, while the other specification parameters are effective ten days after promulgation.

The Agency is also developing two other rulemakings that will regulate the blending and burning of used oil and hazardous waste for energy recovery. EPA will soon be proposing a rule that would list used oil as hazardous waste and establish special management standards for recycled oil, including oil burned for energy recovery. Those rules would go beyond today's final rule by providing standards for used oil generators and collectors, and by regulating the transportation and storage of used oil. Today's final rule

places administrative controls only on marketers and burners of used oil burned for energy recovery, and does not regulate the transportation and storage of used oil.

In 1988, we are scheduled to propose permit standards for the actual burning of hazardous waste and used oil in boilers and industrial furnaces. Under those permit standards, hazardous waste could be burned in any boiler or industrial furnace, irrespective of purpose (i.e., hazardous waste could be burned for energy recovery, material recovery, or destruction).¹ Burning of contaminated (i.e., off-specification) used oil would be permitted under special permit-by-rule standards.

III. Nonregulatory Alternatives

EPA carefully examined a number of nonregulatory strategies for managing used oil, but failed to identify any that would be as protective as these regulations. See 50 FR at 1687 (January 11, 1985). The most promising approach considered was a tax rebate system. Under this system, a tax on virgin lube oil would be rebated to "acceptable" users of used oil (e.g., rerefiners, "acceptable" burners). We explained in the proposal, however, why a tax rebate system would be ineffective in protecting human health and the environment and impractical to implement.

In response to EPA's discussion on nonregulatory alternatives, one commenter suggested a program whereby "do-it-yourself" oil changers would voluntarily bring their used oil to gas stations to be sold to rerefiners. While the Agency is strongly in favor of rerefining, EPA's objective in promulgating today's regulations is to begin to regulate used oil management to ensure that it is managed in an environmentally acceptable manner. See RCRA section 3014. This provision does not authorize EPA to determine preferential recycling approaches and to direct used oil to those approaches, provided alternative types of recycling are conducted in a manner that protects human health and the environment.²

¹ Hazardous waste may be burned for destruction, previously and under today's rule, only under RCRA hazardous waste incinerator standards found in 40 CFR Parts 264 and 265.

² We believe that today's regulations will, in fact, result in a substantial increase in used oil rerefining. Used oil that does not meet the specification and that is currently burned for energy recovery in nonindustrial boilers must either be blended to meet the specification or diverted to industrial or utility boilers or industrial furnaces. We expect that a substantial amount of this oil will find its way to rerefiners. We note also that EPA anticipates proposing in Spring 1986 Federal procurement

PART TWO: MATERIALS THAT ARE REGULATED

I. Overview

Today's rules apply to hazardous waste and used oil burned for energy recovery. When so recycled, these wastes, and materials that are produced from or otherwise contain these wastes as a result of blending, processing, or other treatment, are termed hazardous waste fuel or used oil fuel. These terms are defined in this section. We also discuss how to determine when a waste is burned for energy recovery and the applicability of these rules to burning for materials recovery. In addition, we discuss when combustion residuals from boilers and industrial furnaces burning hazardous waste and used oil are subject to regulation as hazardous waste. Finally, we discuss, in response to comments, our plans to give special consideration to regulating the on-site burning of *de minimis* quantities of hazardous waste fuel and off-specification used oil in the development of permit standards for boilers and industrial furnaces scheduled to be proposed in early 1988.

In defining "hazardous waste fuel", we discuss the basis for exempting certain hazardous waste fuels from these regulations—petroleum refinery fuel products derived from hazardous waste produced by refining and ancillary operations, and coke and coal tar derived from hazardous waste produced by coal coking operations in the iron and steel industry—and why we are rejecting arguments by some commenters to exempt or exclude other hazardous waste fuels.

In defining "used oil fuel", we define used oil and explain the difference between used oil and "oily waste." In addition, we discuss the specification for used oil that may be burned in nonindustrial boilers, and explain why we added total halogens to the proposed specification at a level of 4,000 ppm and why PCBs were deleted from the proposed specification. We also respond to comments regarding why other parameters were not added to the specification and why certain specification levels were selected. We also discuss how to distinguish between hazardous waste fuel and used oil when the used oil may have been mixed with hazardous halogenated solvents, when used oil may be mixed with small quantity generator hazardous waste, and when used oil exhibits a characteristic of hazardous waste. Finally, we respond to comments on

guidelines under authority of RCRA Section 6002 regarding procurement of recycled lubricating oils.

allowing blending of used oil to meet the specification, banning all burning of used oil in nonindustrial boilers, and the availability of analytical testing procedures to determine conformance with the specification.

II. Determining When a Waste is Burned for Energy Recovery

Today's regulations apply to hazardous waste and used oil burned for "energy recovery." This limitation raises two questions: how to distinguish burning for energy recovery from burning for destruction, and determining how to regulate if burning is conducted to recover materials.

In the January 11, 1985 proposal (see 50 FR at 1690), we explained that the Agency had already addressed what is meant by burning for legitimate energy recovery. We explained that burning of low energy hazardous waste as alleged fuel is not considered to be burning for legitimate energy recovery, even if the low energy hazardous waste is blended with high energy materials and then burned. Thus, boilers and industrial furnaces burning low energy wastes (i.e., having less than 5,000–8,000 Btu/lb heating value, as generated)³ could be considered to be incinerating them, and so be subject to regulation as hazardous waste incinerators.

Although today's rule prohibits the burning of hazardous waste fuel and off-specification used oil fuel in nonindustrial boilers, the principles of the statement remain in force. We have indicated, however, that if we were to apply the Enforcement Policy Statement to industrial (and utility) boilers and industrial furnaces, we would seek to enforce in situations where low energy hazardous waste adulteration was deliberate and massive. This is because we have said that larger industrial boilers are more efficient at recovering energy and so could be deemed, more often, to be burning lower energy wastes legitimately. (See 48 FR at 11159 (March 16, 1983).)

A second question is the scope of these regulations when burning involves material recovery. Normally, the purpose for which a material is burned makes no difference in environmental effect. Hence, EPA envisions an ultimate regulatory scheme where regulation of burning applies (as may be necessary to protect human health and the environment) regardless of purpose in all situations within the Agency's jurisdiction. We now address this

³ See Statement of Enforcement Policy issued January 18, 1983 (printed at 48 FR 11157 (March 16, 1983)).

question as it applies to burning in boilers, burning for a dual purpose in industrial furnaces, and burning in industrial furnaces solely for material recovery.

We explained in the January 11, 1985 preamble that since boilers, by definition, have as their primary purpose the recovery of energy, if materials are also recovered, this recovery is ancillary to the purpose of the unit, and so does not alter the regulatory status of the activity. (See also definition of "boiler" in 50 FR at 661 (January 4, 1985).) We also explained that the regulations apply when an industrial furnace burns the same material for both energy and material recovery (e.g., when blast furnaces burn organic wastes to recover both energy and carbon values).

Today's regulations, however, do not apply to hazardous wastes burned in industrial furnaces solely for material recovery. In large part, this is because the primary focus of today's regulations is on waste burning in nonindustrial settings (apartment buildings, hospitals, etc.). In addition, as discussed in the January 4, 1985 preamble to the definition of solid waste and the preamble to the proposed rule in this proceeding, there are certain situations where control of burning for material recovery in industrial furnaces could lead to an impermissible intrusion into the production process and so be beyond EPA's authority under RCRA. See 50 FR 630, 1690. These situations are limited, and involve circumstances where the secondary material being burned is indigenous to the process in which the industrial furnace is used, for example, because the secondary material contains the same types and concentrations of constituents (particularly hazardous constituents listed in Appendix VIII of Part 261) as the raw materials normally burned in the industrial furnace. *Id.*⁴ In EPA's forthcoming regulations establishing permit standards for burning in boilers and industrial furnaces, EPA will establish permit standards for industrial furnaces burning for material recovery (as well as for energy recovery or destruction) in all situations not beyond EPA's regulatory authority.

⁴ An example could be a smelting furnace remelting one of its own listed process residues. In such situations, the secondary material would not be a solid waste at the time of burning in the industrial furnace even though it is classified as a solid waste for purposes of storage prior to burning. Note further that the derived-from rule (§ 261.3(c)(2)(i)) thus would not apply to wastes generated by the burning.

III. Hazardous Waste Subject to Regulation

A. Definition of Hazardous Waste Fuel

1. *Hazardous Waste Fuel.* With certain exceptions discussed below, these rules apply to hazardous wastes (and fuels that are produced from or otherwise contain hazardous waste as a result of processing, blending, or other treatment), that are burned for energy recovery in a boiler or industrial furnace that is not operating under RCRA standards for hazardous waste incinerators.⁵ Such fuel is termed "hazardous waste fuel".⁶

Certain commenters questioned whether these rules (and by extension RCRA section 3004(q)) would apply when energy recovery from burning hazardous wastes is merely incidental, or when energy recovery is not the principal purpose of burning. Today's rules apply where energy recovery is significant or purposeful. The Agency stated as long ago as 1983 in a Statement of Enforcement Policy (48 FR 11159 (March 16, 1983)) that ordinarily burning low energy (less than 5,000 Btu lb.) hazardous waste is not considered to involve energy recovery, in spite of incidental energy release. See also 50 FR at 630 (January 4, 1985), and 50 FR 1690

⁵ If a waste that is hazardous only because it exhibits a characteristic is used as an ingredient in a fuel, and the waste-derived fuel does not exhibit a characteristic, the waste-derived fuel would not be considered to be a hazardous waste. (See § 261.3(d)(1).)

⁶ Several commenters suggested that "hazardous waste fuel" is an inappropriate term to use to describe these fuels since it creates a stigma that will discourage the use of the fuel because of the perceived increased risks associated with hazardous waste. Commenters believed that the negative association of hazardous waste with the fuel would cause many users to stop burning such fuels and, therefore, depress the business of those marketing these fuels, particularly used oil mixed with hazardous waste. Several commenters suggested that the Agency use a different term with less negative connotation (e.g., "regulated" or "RCRA-regulated fuel").

We acknowledge that we have previously (see § 261.3(a)(1), 50 FR 665 (January 4, 1985)) termed hazardous wastes that are recycled as "recyclable materials". We continue to believe, however, that hazardous waste burned for energy recovery should be termed "hazardous waste fuel" for a number of reasons. The warning label provision of section 3004(r) of the Hazardous and Solid Waste Amendments of 1984 (HSWA) requires that an invoice or bill of sale for hazardous waste fuel bear a statement that the fuel contains hazardous waste. Although that provision is superseded by the manifest requirement promulgated today, we believe that Congress intended that EPA controls for such fuels make it clear that the fuels are, or contain, hazardous waste. In addition, although the January 4, 1985 promulgation termed recycled hazardous waste as "recyclable materials", that rule also provided basic controls for hazardous waste burned for energy recovery (expanded by today's rule) and, in fact, first defined such waste as "hazardous waste fuel". See Subpart D of Part 266, 50 FR 667.

(January 11, 1985) reiterating this principle. Thus, if boilers or industrial furnaces burn hazardous wastes containing organic constituents these rules would not invariably apply.

These rules do apply, however, if hazardous wastes (viz. any hazardous secondary material (see § 261.2(c)(2), January 4, 1985 and August 20, 1985)) are burned in industrial furnaces or boilers both to recover energy (i.e., to provide substantial, useful heat energy) and for some other recycling purpose, even if energy recovery is not the predominant purpose of the burning. EPA already has taken this position in the rules codifying section 3004(q) of RCRA. 50 FR 28724 (July 15, 1985). In addition, as noted above, the Agency is moving away from tests based on purpose because the purpose of burning normally is unrelated to its environmental effect. Indeed, the argument that these rules (as well as RCRA section 3004(q)) should apply only where energy recovery is the principal purpose of burning would resurrect the discredited "primary purpose" test formerly used by EPA to distinguish recycling from incineration. As both the Agency and the Congress have stated, this standard was largely irrelevant for evaluating environmental effects of burning, and proved exceedingly difficult to administer. See 48 FR 14483 (April 4, 1983); S. Rep. No. 284, 98th Cong. 1st Sess. at 36 (1983). Nor is section 3004(q) of RCRA limited to situations where energy is the principal purpose of burning, the plain language of the statute applying to hazardous waste burned "for purposes of energy recovery" (RCRA section 3004(q)(1)(B)), or "burned to recover useful energy" (RCRA section 3004(q)(2)(B)). The statute also classifies hazardous waste-derived petroleum coke as a section 3004(q) fuel (see RCRA section 3004(q)(2)(A)), even though petroleum coke is burned for several purposes, only one of which (and not necessarily the most important) is energy recovery. See S. Rep. No. 284, *supra* at 39.⁷

Consequently, these rules apply where hazardous wastes are burned in boilers or industrial furnaces and provide substantial, useful heat energy. Such burning is considered to involve a hazardous waste fuel within the meaning of RCRA section 3004(q).

2. Eliminating Certain Existing Regulatory Exemptions for Hazardous Waste Fuels. These rules expand the

⁷ Section 3004(q) also applies on its face to cement kilns burning hazardous waste even though these industrial furnaces do not burn wastes for the sole purpose of energy recovery. RCRA section 3004(q)(2)(C).

universe of hazardous waste subject to RCRA regulation when burned for energy recovery by removing two exemptions. Although the Agency has jurisdiction to regulate under RCRA all spent materials, sludges, by-products, and § 261.33 commercial chemical products, all fuels to which these materials are added, and all fuels derived from or otherwise containing these materials when they are transported, stored, and burned for energy recovery (see 50 FR 630 (January 4, 1985), and 50 FR 33541 (August 20, 1985)), EPA currently regulates the storage and transportation of hazardous waste burned for energy recovery only on a limited basis. Thus, the following hazardous waste fuels are provisionally exempt: (1) Spent materials and by-products exhibiting a characteristic of hazardous waste; and (2) hazardous waste fuels produced from hazardous waste by blending or other treatment by a person who neither generated the waste nor burns the fuel. (See §§ 266.30 and 266.36 in 50 FR 667 (January 4, 1985).) Under the first exemption, only listed wastes and sludges (both listed, and characteristic) are currently regulated.* Thus, nonsludge, characteristic-only wastes are currently exempt. Under the second exemption, waste-derived fuels produced by off-site, third-party marketers are currently exempt. Today's rules remove both of these exemptions so that the transportation, storage, and other controls apply to *all* hazardous waste fuels.

We have also explained why neither exemption is environmentally justifiable. See 50 FR 1705 (January 11, 1985). There is no general distinction between potential adverse effects of burning listed or characteristic hazardous wastes. Nor is there any general distinction between hazardous waste fuels marketed directly by generators or by marketers unrelated to those generators. These exemptions, in fact, have always been provisional, and exist because of the Agency's initial uncertainty (in 1980) about an appropriate regulatory regime for recycled wastes. *Id.* Although the Agency promulgated a regulatory regime for many recycling activities on January 4, 1985, we decided to remove these exemptions in today's rulemaking dealing solely with burning for energy

recovery rather than in the January 4, rulemaking to avoid confusion or disruption that would result from extensive, piecemeal changes of the current (i.e., May 19, 1980) rules. See 50 FR 632 (January 4, 1985).

B. Consideration of Exemption for Ignitable-Only Hazardous Waste

In the proposed rule, we solicited comments on whether wastes that are hazardous only because of their ignitability should be exempted from the prohibition on burning in nonindustrial boilers. (See 50 FR 1701 (January 11, 1985).) We also asked if these "ignitable-only" wastes should be exempt from all controls (including storage and transportation), or just the prohibition on burning in nonindustrial boilers.

We reasoned that burning such wastes would not pose any greater danger of fires or explosions than commercial fuel oils if the minimum flash point was limited to 100° F. However, we also noted that ignitable-only wastes may actually contain significant levels of toxic compounds because the Agency has not completed its listing of wastes that are hazardous because of their toxicity. Therefore, we indicated that as a part of any exemption scheme those toxic compounds of concern must be identified, acceptable concentrations must be determined, analysis procedures must be prescribed, and recordkeeping procedures must be required.

For a number of reasons, today's rule does not provide an exemption for ignitable-only hazardous waste. Although commenters acknowledged the need to ensure that the waste does not contain significant levels of toxic constituents, they were not helpful in suggesting a rational approach for setting safe levels for the constituents or an implementation scheme that would avoid the expense of analyzing shipments for virtually every compound on Appendix VIII of Part 261. Several commenters suggested that the presence of Appendix VIII compounds that occur naturally in virgin fuel (e.g., toluene, xylene, benzene, metals) should be considered in setting acceptable levels for an exemption. For "non-fuel" compounds, several commenters suggested a maximum level of 100 ppm while one commenter suggested 1 ppm, and another suggested that acceptable levels be based on assessment of risk. As we indicated in the proposal, 100 ppm may be an appropriate level for some constituents while a lower level, perhaps 1 ppm, would be appropriate for the more toxic constituents.

Commenters provided no insight on how acceptable levels would be assigned to the various compounds of concern. Moreover, even if it were assumed that acceptable levels for all Appendix VIII compounds could be determined, commenters did not focus on the analytical burden they would face to endure that shipments met the conditional exemption.

We have concluded that a conditional exemption would be very difficult to develop and very expensive to the regulated community to implement. Moreover, it is not clear that a substantial amount of hazardous waste would even be eligible for an exemption conditioned on the presence of only very low levels of the Appendix VIII constituents not normally present in virgin fuel oil.

We note, however, that we are considering whether special permit standards would be appropriate for ignitable-only wastes under the Phase II permit standards for boilers and industrial furnaces to be proposed in 1988. Such special standards could be fashioned after the current standards for burning ignitable-only waste in incinerators. See §§ 264.340(b) and (c). Under the incinerator standards, site-specific factors such as quantity of waste and location of the facility may be used to determine if measurable, but low, levels of Appendix VIII compounds may pose a hazard to public health or the environment. Wastes found to be ignitable-only with insignificant levels of Appendix VIII compounds are exempt from the performance and operating standards for incinerators. Although waste analysis is required, the analytic burden is minimized by considering only the Appendix VIII compounds that could reasonably be expected to be found in the waste. Thus, consideration of an exemption on a case-by-case basis as part of a permit proceeding provides a rational approach to consider the significance of low levels of Appendix VIII compounds and allows for cost-effective (i.e., limited) waste analyses.

C. Regulation of Fuels Derived From Petroleum Refinery Waste

1. *Petroleum Refineries that Reintroduce Hazardous Wastes From Petroleum Refining, Production, and Transportation to the Refining Process.* EPA solicited comment on the status of fuels from petroleum refineries that reintroduced oil-bearing hazardous wastes from petroleum refining, production and transportation to the refining process. See 50 FR 1689-1690. Although we proposed to define these materials as hazardous waste fuel, we

* Listed commercial chemical products, however, are not solid wastes (or hazardous wastes) when burned for energy recovery if they are themselves fuels or normal components of commercial fuels. See 40 CFR 261.33, 50 FR 28744 (July 15, 1985). An example is pipeline interface generated from the transport of toluene, when the interface is burned for energy recovery.

solicited comment on the extent to which the hazardous waste contaminants are removed by the refining process, or are so diluted by the process that they do not significantly increase the level of contaminants present in fuel. *Id.* If this is the case, EPA believes it has the ultimate authority to exclude the derived fuels from being solid wastes, since the more waste-derived fuels from a process are like products from the same process produced by virgin materials, the less likely EPA is to classify the waste-derived fuel as a waste. (It is clear, however, that EPA possesses jurisdiction under RCRA to make these determinations. See RCRA section 3004(r).) The American Petroleum Institute (API) submitted relevant data on these points which EPA noticed for public comment on June 28, 1985. 50 FR 26389.

These data, though limited, seem to indicate that at large, sophisticated refineries, these recycling practices do not significantly contribute to metals levels in the refined fuels. However, EPA cannot as yet determine whether this is due to the refining process itself, or whether the amounts of waste reintroduced into the process are so low as to be diluted. In particular, API's data indicated that less than one percent of hazardous waste (*i.e.*, chiefly oil reclaimed from hazardous wastes) is reintroduced into the refining stream at a crude petroleum refinery. Based on these data, they show that the increase in metals content in the final product is minimal. For example, cadmium levels increased from 0.11 ppm to 0.12 ppm while lead levels increased from 0.89 ppm to 0.91 ppm. (See Table 3, p. 16 of API's submission on comments on reopening of comment period dated June 12, 1985.) Thus, when only a small percentage of waste is reintroduced back into the refining process, it does not appear to appreciably effect metals levels in the final refined products. However, the Agency is concerned that if contaminants are simply being diluted, then if there were a significant increase in the amount of hazardous waste feed, resulting fuels could be significantly contaminated since the wastes being reintroduced contain concentrations of toxic metals far greater than those in most crude oils. In fact, the Agency has some preliminary data from its petroleum refining industry study which indicates that for at least some metals—arsenic and cadmium—the distillation process does not necessarily remove the metals from the fuels.

The Agency is considering an approach which would indicate that if the amount of hazardous waste that was reintroduced back into the petroleum

refinery was minimal (*i.e.*, less than one percent), the fuel produced at the refinery would be excluded (*i.e.*, would not be a solid waste). In the short term there are certain implementation difficulties with this idea, particularly the difficulties of determining compliance for each batch since refining is a continuous process. The Agency is continuing to evaluate this possibility, however.

Rather, EPA believes that more time is needed to study these questions. In particular, EPA intends to examine further the question of whether removal actually occurs as a result of refining. This would have bearing not only on the question of whether regulation is justified, but also on the question of whether resulting fuels should be classified as products or as wastes. EPA particularly wishes to examine the extent to which these wastes can influence the composition of fuels from smaller, less sophisticated refineries which may remove fewer metals from the wastes, and also may use a higher percentage of wastes as feed-stocks.

At present, however, since there is no persuasive evidence that reintroduction of these indigenous hazardous wastes into the refining process actually contributes significant concentrations of metals to the resulting fuels, EPA is leaving in place the existing exemption for such fuels contained in § 261.6(a)(3)(v).⁹ See 50 FR 33542 (August 20, 1985). Another factor influencing continuation of the exemption is that fuels produced only from virgin crude oil can have higher levels of toxic metals than fuels partially produced from these hazardous wastes.¹⁰ See 50 FR 1695 (January 11, 1985).

Thus, fuels produced from refining of indigenous, oil-bearing hazardous wastes at a petroleum refining facility will continue to be exempt. By "petroleum refining facility" EPA means to include any facility that produces hydrocarbon products (*e.g.* gasoline, kerosene, distillate fuel oils, residual fuel oil, etc.) from crude oil or its

⁹As explained in detail in the preamble to the proposed rule, this provision does not exempt the hazardous wastes before they are reintroduced into the refining process (50 FR at 1689).

¹⁰EPA also considers these waste-derived fuels to remain petroleum, rather than hazardous substances, for purposes of the comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). See CERCLA section 101(14) (excluding petroleum from definition of hazardous substances). In light of the widespread nature of these recycling practices, to do otherwise would potentially read the exclusion for petroleum out of CERCLA. In addition, there is no indication that Congress meant for these waste-derived fuels to be considered hazardous substances when it added sections 3004(r) (2) and (3) to RCRA (which provisions indicate that such fuels remain hazardous wastes).

immediate fractionation products through straight distillation of crude oil or other intermediate products (*e.g.*, gas oils, naphtha, etc.) (This is the definition of the Petroleum Refining Standard Industrial Classification (SIC 2911)). For these hazardous wastes to be considered to be refined, they must be inserted into a part of the process designed to remove contaminants in the normal operation of the refining process. See 50 FR 28725 (July 15, 1985). As we explained there, this would mean insertion of the wastes prior to distillation or catalytic cracking. (The distillation process is used to split the feedstock into fractions based on the various boiling points of the feedstock components. The data submitted by API indicates that most of the metals concentrate in the heavier (high boiling point) fractions. Many times these fractions are not used for fuels but rather to produce asphalt or petroleum coke. Therefore, there is a significant probability of contaminant removal from many fuel fractions if there is distillation in the process.) In addition, without distillation or insertion of the wastes into another part of the process designed to remove contaminants, there will be no removal of contaminants at all, and Congress regarded some removal as one of the prerequisites for exemption. See RCRA sections 3004 (r)(2)(B) and (r)(3)(A), and 50 FR at 28725 (July 15, 1985). Consequently, if a facility takes an oil-bearing hazardous waste and processes it without distillation to produce a fuel, the resulting fuel is *not* covered by this exemption and so could be subject to regulation. Similarly, if a refinery inserts the waste into a part of the process after distillation or catalytic cracking (as explained above), resulting fuels are *not* automatically exempt.¹¹

Under EPA's proposal, such fuels (*i.e.*, fuels derived from petroleum refining wastes which fuels are produced by processes *not* using distillation, or the fuels resulting when petroleum refining waste are inserted into the refining process after points at which any contaminant removal can occur) were classified as hazardous waste fuel (assuming they were derived from listed refinery wastes, or exhibit a hazardous

¹¹Incidentally, certain used oil-based processes produce used oil fuel from processes that use distillation. These processes are not refining operations (in spite of the use of distillation) because they do not produce fuels from crude oil. Fuels from such a process thus are not automatically exempt from regulation, but would be if they meet the specification for used oil fuel. If this type of processor should also use oilbearing petroleum refining hazardous waste as a feed material, the resulting fuels would be exempt if they meet the used oil fuel specification, since the operation is comparable to those described in the following paragraph in the text.

waste characteristic) subject to all the regulatory requirements for such fuels. EPA has modified this position in the final rule so that such fuels are *not* subject to regulation if they meet the same specification applied to fuels produced from processing used oil—a very similar operation. (In fact, the Agency is aware of operations that blend petroleum refining hazardous wastes and used oil.) We have added an exemption to § 261.6(a)(3) to make this point. This will ensure that the resulting fuels will pose no greater environmental hazard than the virgin fuels that would be burned in their place.^{12 13} EPA thus believes this is the proper means of controlling this potential problem. If the waste-derived fuel should exceed the fuel specification, it would be subject to all of the rules applicable to hazardous waste fuels. (As a hazardous waste fuel which is not completely derived from used oil, the fuel is not eligible to be regulated under the special standards reserved for used oil. See RCRA section 3014. This position is consistent with the one taken in the proposed rule.)

2. Oil Recovered from Petroleum Refining Hazardous Wastes that is Returned to the Refining Process. A related question is the status of oil that is recovered from hazardous wastes generated during normal petroleum refining, production, or transportation practices. The recovered oil is usually returned to the refining process as a substitute for crude oil but can also be burned directly as a fuel. Under amended § 261.3(c)(2) [see 50 FR 664 (January 4, 1985) and 50 FR (August 20, 1985)], such oil remains in the hazardous waste system (if it is to be used to produce fuel or is burned for energy recovery). EPA solicited additional comment on this issue on May 13, 1985 (50 FR 19956).

EPA is not yet able to amend the rules to state under what circumstances reclaimed oil might not be considered to be a waste. This is largely because

available data (which are limited) show that the oil can contain higher metals levels than virgin fuel oil.¹⁴ EPA thus needs to study further the particular means of oil recovery from these wastes, and the composition of the resulting oils in relation to composition of virgin fuels.¹⁵

EPA is prepared, however, to continue the existing exemption (in § 261.6(a)(3)(vi)) for these recovered oils, and for fuels from petroleum refining which are partially produced from these recovered oils. The data submitted by API appear to show that the recovered oil does not contribute significant levels of metals to the refined fuels. (The Agency is continuing to investigate whether this is due to dilution or removal incident to refining.) Nor does the Agency believe it appropriate at this time to regulate the recovered oil prior to reintroduction to the refining process in light of the incomplete characterization of the oil's composition, the likelihood of similar handling practices for recovered oil as for crude oil, and the possibility of disproportionate impact of such regulation on off-site facilities recovering oil from these wastes vis-à-vis refineries recovering oil from their own wastes (which recovered oil is almost invariably piped directly back to the refining process and so would not be regulated under current EPA rules.¹⁶

However, if the recovered oil is to be burned directly as a fuel, EPA has determined that the oil should be regulated as a hazardous waste fuel unless the oil meets the specification for used oil fuel. The situation is exactly analogous to hazardous waste fuels

produced by processing (rather than refining) these oil-bearing wastes. We have explained above why it is appropriate to apply the fuel specification to these waste-derived fuels, rather than (as at proposal) to regulate them as hazardous waste fuels regardless of composition. We also are including an exemption in § 261.6(a)(3) for recovered oil burned directly that meets the used oil fuel specification.

4. Statutory, Conditioned Exemption of Coke Derived from Indigenous Petroleum Refinery Wastes. The petroleum refining industry also produces coke from refinery process wastes. If the coke is produced from or contains listed hazardous waste, the coke produced from such wastes is a hazardous waste. The Hazardous and Solid Waste Amendments (HSWA) of 1984, however, exempted from regulation as hazardous waste fuel such-derived coke provided: (1) The Hazardous waste used to produce the coke is indigenous to petroleum refining; (2) the coke is produced at the same facility that generated the hazardous waste; and (3) the coke does not exhibit a characteristic of hazardous waste. (See section 3004(q)(2)(A). This statutory exemption is codified at § 266.31(b)(2)¹⁷ and is redesignated in today's rule as § 266.1(a)(3)(ix).

D. Exemption of Coke and Coal Tar Produced From Coal Tar Decanter Sludge by the Iron and Steel Industry

EPA indicated in the proposed rule that it would consider granting an exemption to coke produced from coal tar decanter sludge [EPA Hazardous Waste K087] if commenters provided data that demonstrate that hazardous contaminant levels in the coke are not appreciably increased by recycling the tar sludge. (See 50 FR 1690.) Today's rule exempts such waste-derived coke (a hazardous waste fuel even though not burned exclusively or necessarily primarily for energy recovery (see section III.A.1 above)) from regulation as hazardous waste and also excludes coal tar produced from coal tar decanter sludge.

Tar decanter sludge is generated during the recovery of a coal tar by-product produced during the production of coke from coal. The sludge is listed as hazardous waste because of high levels (about 1%) of phenol and naphthalene. The sludge is frequently recycled by mixing it with coal before it is charged to a coke oven to produce coke. The coke product is typically used as a fuel in steel blast furnaces. In addition, the sludge is sometimes mixed back into the coal tar by-product which is also

¹² See preamble section IV-C of Part Two for discussion on basing the used oil fuel specification levels for metals on levels found in virgin fuel oils. It should be noted that the specification level for lead is higher than levels found in virgin fuel. EPA is subjecting nonexempt fuels derived from petroleum industry wastes to the higher lead specification, at least as an interim measure, because many of the facilities potentially affected also process used oil. For the moment, therefore, EPA will apply all of the used oil fuel specification to the resulting fuels. The Agency, however, is studying this question further in preparing its Phase II rules.

¹³ EPA could not normally apply this logic to fuels derived from hazardous wastes because the types of hazardous constituents potentially present are much more numerous, and could be present in much higher concentrations, than those found in oil-bearing wastes from petroleum refining, production, and transportation (or in used oil). See 50 FR 1691 n.14. Hazardous constituents in other wastes also would not correspond to hazardous contaminants in virgin fuels.

¹⁴ See comments from American Petroleum Institute (Table 3, p. 18) dated June 12, 1985.

¹⁵ EPA solicited comment on the applicability of the variance for closed-loop processes contained in amended § 260.31(b). It is possible that a parallel variance (to be applied on an industry-wide basis if appropriate) for materials that are reclaimed but must be reclaimed further before final recovery (§ 260.31(c)) is appropriate. The Agency also is continuing to assess the relationship of these situations to RCRA section 3004(r) (2) and (3). Other comments to the Agency's notice (particularly those on the existing regulatory status of recovered oil and on whether there is any difference in fuels "produced from" or "containing" hazardous waste) were answered in the Agency's August 20 notice. See 50 FR 33541.

¹⁶ As noted above, hazardous wastes from which oil is recovered are regulated until the point of oil recovery. Distinguishing between recovered oil and listed hazardous wastes (i.e., API Separator Sludge, Slop Oil Emulsion Solids, etc.) will not always be an easy decision. In making this distinction, the Agency will consider a number of factors, including water content, solids content, and, in some cases, metals content. Thus, wastes with high water or solids content will generally be perceived as hazardous wastes subject to regulation and not as recovered oil. For example, if an oily waste is sent off-site to be dewatered, this material would not be considered a recovered oil (exempt from regulation) but a waste subject to regulation, if this material were also hazardous.

¹⁷ See 50 FR 28751 (July 15, 1985).

frequently used as a fuel. Both of these waste-derived fuels are exempted from today's rules for the reasons discussed below.

The American Iron and Steel Institute (AISI) and Koppers Company, Inc. provided comments explaining the coking operation and how tar decanter sludge is recycled. In particular, when the sludge is mixed with coal before it is charged to the coke oven, the hazardous constituents in the sludge (phenol and naphthalene) are driven off during the coking process along with other volatile compounds formed by the thermal cracking of organic compounds in the coal. These volatile compounds are condensed to recover a coal tar by-product. The tar decanter sludge is produced during recovery of the coal tar and consists of coal tar and "inert carbonaceous material carried over from the coking operation". (See AISI comments, page 3.) AISI and Koppers provided analyses of the waste-derived coke product indicating that phenol and naphthalene were not detected in the coke at detectable levels ranging from less than 1 ppm to as high as 20 ppm.

We conclude that phenol and naphthalene are not present in such coke at levels that would pose substantial risk to human health and the environment, particularly considering that the coke is burned as fuel and that any trace levels of these compounds would be readily combustible.

AISI also indicates that the same principle (i.e., if recycling a waste does not increase levels of toxic constituents in a waste-derived product, the product should be exempt from regulation) should be applied to coal tar mixed with tar decanter sludge. AISI states that when tar decanter sludge is mixed back into the coal tar (after passing through a ball mill to produce a uniform material), the phenol and naphthalene content of the coal tar by-product is not significantly affected. AISI argues that coal tar itself contains significant levels of these hazardous compounds (typically 1% phenol and 10% naphthalene), and that tar decanter sludge is simply a mixture of coal tar and carbonaceous material. Further, the sludge is mixed with the coal tar in small volumes representing about 1% of the coal tar by-product. We, therefore, conclude that such recycling does not increase levels of phenol and naphthalene in the coal tar by-product, and the coal tar should be exempt from today's rules when burned for energy recovery.

These exemptions apply only to the waste-derived products, and only when derived from tar decanter sludge. Thus, tar decanter sludge is subject to full

RCRA regulation prior to recycling, and the exemption does not extend to coke or coal tar derived from hazardous waste (e.g., spent solvents) other than tar decanter sludge designated as EPA Hazardous Waste K087.

E. Status of Gas Recovered from Landfills

We are indicating that today's final rules on hazardous waste fuels do not apply to gas recovered from landfills that is burned for energy recovery in boilers or industrial furnaces. Although it is clear that EPA has authority to regulate gaseous emissions from hazardous wastes (see, e.g., RCRA Section 3004(n)), EPA has not yet addressed whether there are any limits on this authority, and, if there are limits, what the extent might be. Nor has the Agency received comment on these questions sufficient to make a considered decision. In light of the absence of a record and the potential difficulty of the question, we are not deciding the question in today's rule but instead are indicating that recovered landfill gas is not regulated under today's rules.

F. Request for Exclusion of Cadence Product 312

Several commenters requested EPA to exclude Cadence product 312 from regulation as a hazardous waste fuel. Cadence product 312, better known under its former trademark name of "CHEM-FUEL" (hereinafter termed "Cadence product"), is a blend of hazardous spent solvent recovery still bottoms and other hydrocarbon-based hazardous waste that is patented for use in blast furnaces by Cadence Chemical Resources, Inc. (hereinafter termed "Cadence").

Cadence product is produced by licensees of the Cadence process who blend spent solvents generated by others as well as solvent recovery still bottoms that they generate by their reclamation activities. The licensees ensure that the blend meets specifications set by furnace operators for parameters including heating value (10,500–14,000 Btu/lb) and chlorine content (1–5%). Thus, the mix can contain up to 5% chlorinated spent solvents, most of which are carcinogenic. The entire mix is then sent to the blast furnace for burning.

Many commenters argued that Cadence product is not subject to regulation as a hazardous waste fuel because it is not burned in the blast furnace for energy recovery. Rather, they argue that Cadence product is burned as an ingredient in the iron-making process to provide carbon,

hydrogen, and chlorine and that it only provides incidental energy to the furnace. Commenters further argue that Cadence product is a valuable product used in a major commodities market, and, hence that EPA does not have authority under RCRA to regulate it. They assert that it is a commercial product with recognized specifications and procedures for its production.

For the reasons given below (and as provided further in the Response to Comment Background Document), we either disagree with the commenters' claims or find them irrelevant to the question of whether Cadence product is subject to regulation as a hazardous waste fuel. Specifically, we find that Cadence product is burned partially for energy recovery because the heat energy contributed by the product to a blast furnace is substantial and useful. In addition, the Cadence product has the attributes of an inherently waste-like material, and is the type of secondary material EPA is empowered to investigate and regulate as may be necessary to protect human health and the environment. Both of these points are discussed below.

1. Cadence Product is Burned Partially for Energy Recovery. Cadence argues that their product is burned in a blast furnace to provide ingredients necessary to drive furnace reactions and to enhance furnace operations. In particular, Cadence argues, and we agree, that the product has the beneficial effect of *cooling* flame temperatures in the combustion zone of the furnace and of providing hydrocarbons that are converted to gases needed to react with the iron ore to produce iron. Cadence also argues that the chlorine in the product has a beneficial effect on furnace operations, and, thus, also acts as an ingredient.¹⁸ Cadence also argues, however, that the heat energy released from burning the product in a blast furnace is "incidental and unavoidable" (Cadence comments dated March 12, 1985, p. 11), and, thus, the product is not burned for energy recovery. We disagree with Cadence on this point and will show below that the

¹⁸ Cadence claims that the chlorine from the product reacts with "alkali compounds to prevent their deleterious action on the coke and ore particles" and to prevent furnace wall scale. See statement by John Elliot dated March 11, 1985 (pp. 6–4) attached to Cadence comments dated March 12, 1985. Although not relevant to EPA's argument that Cadence product is burned partially for energy recovery, EPA questions whether such chlorine results in substantial improvement in furnace operations and, thus, constitutes a *bona fide* (i.e., necessary) ingredient given that it is not common practice to inject chlorine-bearing materials in a blast furnace.

product, in fact releases substantial, useful heat energy to a blast furnace and, thus, is burned partially for energy recovery within all reasonable understanding of the term. Although we agree that energy recovery is not the sole purpose for burning Cadence product in a blast furnace, the fact that substantial, useful energy is recovered subjects Cadence product to regulation as hazardous waste fuel. (See discussion above in section III.A.1 where we explain that regulation of burning for energy recovery does not turn on the sole or primary purpose of burning.)

a. *General Description of Blast Furnace Operations.* Iron blast furnaces are used to smelt iron ores to produce crude iron (pig iron) suitable for steelmaking. The iron blast furnace is a large, shaft (vertical) reactor. Iron ores along with coke and fluxes such as limestone and dolomite are charged into the top of the reactor. A large volume of air preheated to 2000 °F (termed "hot blast") is injected into the bottom of the furnace to burn the coke to produce the heat and reducing gas needed to drive furnace reactions. Temperatures in the combustion zone at the bottom of the furnace range from 3700-3900 °F. The coke provides both the primary source of heat and the primary source of carbon used to produce the reducing gas carbon monoxide. The carbon monoxide reduces the iron ore by (net) energy absorbing reactions to produce pig iron. About 1000 lbs of coke are required to produce a ton of pig iron. Gases drawn off the top of the furnace contain excess carbon monoxide to give the gas a heating value of about 90 Btu/ft³. About one third of this furnace gas is used as a fuel in stoves to preheat the combustion air (i.e., the hot blast). The remainder of the furnace top gas is used as a fuel in a boiler plant or in other heating applications within the steel plant. Melted iron and liquid slag are drawn off from the bottom of the furnace.

b. *Modern Methods of Reducing Coke Rates.* Coke has become increasingly expensive since the early 1960's because of the rising price of metallurgical coals needed to produce suitable coke and the rising cost of coking operations because of environmental and other concerns. Reducing coke rates is also advantageous because furnace productivity is increased by increasing the iron ore to coke volume ratio charged to the furnace (i.e., coke can be replaced by iron ore, thus increasing iron output).

The two principle methods of reducing coke rates are to increase hot blast

temperatures and to inject fuels¹⁹ through tuyeres (i.e., firing nozzles) into the combustion zone at the base of the furnace. Both approaches generally are employed together because fuel injection enables operators to control flame temperatures in the combustion zone (raised by increasing hot blast temperatures) to optimum levels. In addition, the injection of hydrocarbon fuels replaces the carbon in the displaced coke and ensures that appropriate furnace gas composition conducive to iron ore reduction is maintained. The heat energy of the hydrocarbon fuels also replaces the heat energy of the displaced coke. Given that coke is both the primary fuel and the primary source of reducing gas (carbon in the coke is converted to the reducing gas carbon monoxide), when the coke rate is decreased substantially (i.e., by increasing hot blast temperature and using fuel injectants) the heat energy and source of reducing gas supplied by the displaced coke must be provided by some other source.^{20 21} This source is the tuyere-injected fuels like the Cadence product.

c. *Although Fuel Injectants Cool Flame Temperatures, They Provide Substantial, Useful Heat Energy.* Before we explain how liquid fuel injectants with substantial heating value like No. 6 fuel oil or Cadence product contribute substantial heat energy to a blast furnace, we will explain how they, at the same time, actually cool flame temperatures in the combustion zone. Combustion zone temperatures are maintained at 3700-3900 °F by the combustion of coke in the presence of the 2000 °F hot blast (i.e., preheated combustion air). The net reaction of injected fuels is endothermic (heat absorbing) in this zone. Injected liquid fuels first undergo endothermic vaporization, then exothermic combustion to (ideally) carbon dioxide and water where sensible heat is released, and finally, endothermic dissociation²² and reduction in the

presence of excess carbon provided by the coke to form the reducing gases carbon monoxide and hydrogen.

Cadence argues that these liquid fuel injectants are not burned for energy recovery because tuyere-injected fuels undergo net endothermic (i.e., heat-absorbing) reactions in the combustion zone which reactions actually cool flame temperatures, and that any heat energy released from subsequent reactions is incidental and unavoidable. Cadence's argument ignores the fact that fuel injectants first behave as *bona fide* fuels by combusting to (ideally) carbon dioxide and water. The amount of sensible heat released during this combustion phase is measured by a fuel injectant's heating value in Btu/lb. Immediately after the fuel is combusted, the combustion products act as ingredients to furnace reactions by being converted to the reducing gases carbon monoxide and hydrogen during endothermic reactions. The fact that fuel injectants release substantial heat energy while providing hydrocarbons for reactions enables operators to reduce coke rates.²³ (As noted above, coke is both the primary fuel and primary source of carbon to the blast furnace.)

The heat energy released from subsequent (i.e., outside the combustion zone) reactions of fuel injectant hydrocarbons is in fact substantial, intentional, and useful contrary to Cadence's claim that it is incidental and unavoidable. As discussed above, furnace top gas is used as fuel in stoves to heat the hot blast, in a boiler plant, or in other heating applications within the steel plant. The excess reducing gas contained in the top gas that was not used to reduce the iron ore gives the top gas substantial heating value. The excess reducing gas is contributed by

readily available, and it introduced hydrogen for reduction. (Hydrogen supplements carbon monoxide as a reducing gas in the furnace.) The use of steam as an injectant, however, consumes coke in the combustion zone thereby reducing the overall effectiveness of any increase in blast temperature. Fuel oil injection, however, not only acts as a coolant, allowing the use of higher blast temperatures, but also replaces a portion of the coke. Source: "Fuel-Oil Injection Into Blast Furnaces: A Literature Review", Journal of the Institute of Fuel, vol. 49, n 398, June 1978, p. 73.

¹⁹ At the 3700-3900 °F temperatures in the combustion zone, a fraction of the carbon dioxide and water vapor is thermally dissociated to form carbon monoxide, hydrogen, and oxygen. See Babcock and Wilcox, *Steam, Its Generation and Use*, 1978, p. 6-7.

²⁰ "Injection of hydrocarbons through the tuyeres of a blast furnace is carried out (a) to replace coke by cheaper sources of fuel and reductions; (b) to increase (by lowering the proportion of coke in the charge) the amount of iron ore in the furnace shaft." Source: Peacey, J.G. and Davenport, W.G., *The Iron Blast Furnace*, p. 140, included in comments submitted by Cadence on October 25, 1985.

¹⁹ Cadence's terminology notwithstanding, tuyere-injected materials with substantial heating value are invariably termed fuels in the technical literature.

²⁰ "The same atoms of carbon are involved in reactions that generate the heat for the furnace as are involved as the reducing agent (as carbon monoxide) to convert the ore to metallic iron." Statement by John Elliot in reference to his review of an EPA internal, deliberative, draft document. Mr. Elliot's comments are contained in correspondence from counsel to Cadence, to Winston Porter, Assistant Administrator for the Office of Solid Waste and Emergency Response, dated October 31, 1985. (Release of this internal, post comment period EPA document was not intended.)

²¹ Steam had been a popular (nonfuel) injectant in the 1960's because it was relatively cheap and

the coke and fuel injectants, roughly in proportion to the amount of hydrocarbons each provides to the furnace. As shown in the table below, furnace top gas is a substantial fuel source in that only about one-third of the fuel gas is used to heat the hot blast while two-thirds is available for other uses.

Empirical demonstration that burning fuel injectants supplies substantial energy to blast furnaces is provided by standard literature references. The table below shows an energy balance for a modern 28-foot diameter hearth furnace operating at a hot blast temperature of 2000 °F with a coke rate of 870 lb/ton of hot metal (i.e., pig iron) and using fuel oil injected at a rate of 170 lb/ton of hot metal. The fuel injectant provides about 22% of the heat input to the furnace. The amount of coke needed to supply this energy (and reductants) to a furnace producing 4,000 tons per day of hot metal would be more than 300 tons per day. Thus, it is clear that fuel injectants provide substantial, useful heat to the furnace.

BLAST FURNACE ENERGY BALANCE

	Millions of Btu per ton of hot metal
Energy input:	
Caloric value of coke	70.9
Caloric value of fuel-oil-injected fuel oil	8.1
Total	79.0
Energy output:	
Caloric value of top gas	45.2
Top gas consumed in heating blast air	41.2
Net top gas energy available for other uses	4.0
Heat for chemical reactions, heat loss, and sensible heat of hot metal and slag	70.3
Total	74.0

¹ Energy obtained from coke and fuel oil (in the form of excess carbon monoxide and hydrogen) and partially recycled as hot blast.

² Source: Based on data in Kirk-Othmer Encyclopedia of Chemical Technology, v 13, p. 742, (1967).

Injectants that have no heating value like steam, or minimal heating value,²⁴ provide no or minimal heat energy to the furnace and, thus, are not considered to be fuel injectants. Thus, injectants with no or minimal heating value are not considered to be burned for energy recovery.

Cadence's argument in fact proves too much. It is clear that net furnace reactions are endothermic—heat from the coke and fuel injectants is required to drive reactions that reduce iron ore to metallic iron. Under Cadence's logic that a material involved in an endothermic reaction is not a fuel irrespective of its heating value, the coke would not be a fuel. Yet it is the primary fuel source to the furnace. The fact is that both coke

and fuel injectants like the Cadence product serve a dual purpose of providing substantial needed energy and reductants.

d. *Use of Cadence Product as a Fuel Injectant.* Cadence product is blended with No. 6 fuel oil in a volume ratio of about 50/50 for use as a fuel injectant. Cadence product is a fuel injectant, rather than a nonfuel injectant (e.g., steam), because it has a heating value by specification of 10,500 to 14,000 Btu/lb, which is comparable to the heating value of coke and coal. Cadence product, like other liquid fuel injectants, cools flame temperatures in the combustion zone. It also provides hydrocarbons for conversion to the reducing gases carbon monoxide and hydrogen, provides substantial, useful heat energy to the blast furnace, and thus enables operators to reduce the coke rate.²⁵

In addition, we note that Cadence itself has informed the Agency, the Congress, and the public on many occasions that Cadence product is burned by blast furnaces (at least partially) as a fuel. Cadence's President Mr. Reese so stated in testimony to Congress. Cadence's comments to the Agency in the definition of solid waste rulemaking (Cadence comments dated August 1, 1983, p. 16) refer to the product as "CHEM-FUEL" and stressed this point:

...CHEM-FUEL, like coke, is both a raw material and an energy source when used in the blast furnace. Its principal components are hydrocarbons which provide the essential carbon and hydrogen for ore reduction and energy generation. (Emphasis original)

Cadence's licensees also stressed this point when dealing with EPA's enforcement officials, making the emphatic point that high Btu hazardous wastes were utilized so that the burning legitimately recovered energy. Cadence's patent application states that the material is used to support combustion in blast furnaces. Even in the present rulemaking, a number of Cadence's suppliers indicated that the Cadence product (to which their hazardous wastes contributed) "is used as a fuel by steel producers . . ." (Comments of Detroit Edison, March 11, 1985; to the same effect, see comments 37, 73, and 87 to this rulemaking.) Indeed, the Cadence material was marketed for years under the tradename "CHEM-FUEL". The Agency thus

²⁵ "There is no question that Cadence Product 312 adds to the sensible heat of the heat and material balance of the process and that energy is recovered." Source: Nickell, Melvin E., "Comments on the Injection of Auxiliary Fuels in the Tuyeres of the Iron Blast Furnace", September 30, 1985, p. 4 (unpublished report).

believes that the company's own pronouncements, as well as those of its licensees and customers, indicate strongly that Cadence product is burned (partially) for energy recovery.

2. *Cadence Product Is the Type of Recycled Material Over Which EPA has Jurisdiction.* Stepping back for the moment from the intricacies of blast furnace operations, it is apparent to the Agency that the Cadence product is the type of material EPA is empowered to evaluate and regulate if necessary to protect human health and the environment due to the nature of the Cadence product, its similarity to other waste-derived fuels conceded within EPA's authority, and the nature of the end recycling practice. Cadence product is produced by Cadence's licensees essentially by the simple blending of hazardous solvent still-bottoms and other hydrocarbon-based hazardous wastes to meet a specification for parameters of concern to blast furnace operators, including heating value and chlorine content. Some of the hazardous wastes are collected from generators while other hazardous wastes (e.g., solvent recovery still-bottoms) are generated by the licensee. The specification limits heating value of Cadence product to 10,500–14,000 Btu/lb and chlorine content to 1–5%. Thus, Cadence product is similar (or, according to companies in the blending business, identical) in production and content to hazardous waste fuels burned in other industrial furnaces like cement kilns.

Cadence claims that: the waste-derived materials used to manufacture Cadence Product 312 are not suitable for direct use in blast furnaces; they first must be analyzed and then fully processed to finished goods specifications in a Cadence manufacturing facility. The production of Cadence Product 312 is completely analogous to many well-recognized manufacturing operations. These unsupported assertions overstate the sophistication of the Cadence "manufacturing process". In fact, we understand that, other than simple blending, the only processing that is sometimes used at facilities that produce Cadence product is the distillation of spent solvents to recover solvent. This process, wholly unrelated to the "manufacture" of Cadence product, generates still bottoms that are blended with other petroleum-based wastes to produce the product. Although Cadence licensees conduct analyses of waste feedstocks and blended product to ensure conformance with specifications, other waste blenders that market hazardous waste fuels (e.g., for use in cement kilns) also conduct analyses of feedstocks and fuel product

²⁴ The Agency always considers a material with a minimum heating value of 5,000–8,000 Btu/lb to be a bona fide fuel. See section II in the text.

to meet a specification. Thus, the blending of wastes to produce Cadence product is similar to other waste-derived fuel operations.

Cadence's operations thus raise the troubling question of what degree of processing can transform a waste into a product. The Cadence process involves relatively minimal processing. No significant resources are recovered from the Cadence product until it actually is burned. The Agency always has been leery of the notion that minimal processing of hazardous wastes prior to recovery of resources from them (in this case, energy) transforms wastes into products. It was for this reason that EPA amended § 261.3(c) (2) on January 4, 1985 to state that materials reclaimed from hazardous wastes remain hazardous wastes when burned for energy recovery, and indicated in the same rule that hazardous wastes that are partially but not fully reclaimed remain hazardous wastes (see § 260.30(c)). These provisions illustrate the general principle that minimal processing before final recovery does not ordinarily transform a hazardous waste into a product. Cadence's process appears to raise analogous problems of using a relatively minimal processing step as a means of insulating hazardous waste recycling from RCRA jurisdiction. When this fact is coupled with the fact that the form of end recycling of the Cadence product closely resembles incineration (in the sense that hazardous wastes are burned by controlled flame combustion), it is apparent to the Agency that RCRA jurisdiction over the burning exists.

Even more fundamentally, EPA does not believe that the question of jurisdiction over the Cadence product (or other similar waste-derived materials) need turn narrowly on the question of whether it is burned partially for energy recovery. Cadence product is composed of toxic chlorinated solvent still bottoms which (on a nationwide basis) are typically disposed of or incinerated. These still bottoms are not similar to raw materials customarily used in the iron-making process (i.e., toxic chlorinated solvents are not a typical feed or energy source to the iron-making process). The recycling practice, as well as prior transportation and storage has the potential to cause substantial harm to human health and the environment if conducted improperly.²⁶

²⁶ Preliminary results of EPA's emissions test for a blast furnace burning Cadence material indicate that these devices may be able to destroy 99.99% of toxic organic constituents in the material. If confirmed, this means that these devices may be

EPA believes that recycling of hazardous secondary materials that are so different from the raw materials customarily utilized in the process is a prototypical situation it is empowered to control under RCRA Subtitle C. This is particularly true in this case because the recycling involves burning (viz. controlled flame combustion), and so resembles incineration. The recycling activity also is not part of a continuous industrial process, but rather involves unrelated parties and processes (i.e., the hazardous waste generators who generate spent solvents and hazardous still bottoms, intervening processors (who not only process but add additional hazardous still bottoms to the mixture), and the steel mill), in addition to involving secondary materials normally unrelated to the ironmaking process. For these reasons, EPA is prepared to exercise its authority to designate Cadence product, and all similar materials, as solid wastes pursuant to § 261.2(d) when recycled via controlled thermal combustion in processes not customarily utilizing chlorinated toxicants as a fuel or raw material should this ever prove necessary. In light of the Agency's judgment that Cadence product is burned partially for energy recovery and so is subject to regulation as hazardous waste fuel, it is unnecessary to exercise this authority at the present time.²⁷

able to safely burn toxic organic wastes under appropriate conditions. This does not mean, however, that these devices could always be expected to achieve 99.99% destruction efficiency, absent regulatory controls on operating conditions. Storage of Cadence Product also has the potential to cause substantial harm. As discussed in the text in section II of Part Four, the fact that a hazardous waste fuel is being stored as a commodity is insufficient to prevent substantial risk.

²⁷ There is another point in Cadence's presentation that is deeply troubling to the Agency. Cadence is arguing that when they blend and process chlorinated hazardous wastes, the resulting processed material is a product excluded from RCRA so long as there are specifications (such as for total chlorine) on the end "product" and so long as all components of that "product" are put to beneficial use when burned. This argument applies with equal force if the chlorinated hazardous wastes being processed were dioxin or chlorophenoxy pesticide wastes (rather than carcinogenic solvents): the blended product would still be used as a reducing agent in iron-making, toxic organic compounds would provide hydrocarbons to the iron-making process, and chlorine would remove accumulated wall scale within the furnace. Although these types of hazardous wastes are not blended into Cadence product to our knowledge, the point is that their argument does not preclude such use. Cadence's argument would in fact be identical. It thus seems to the Agency that Cadence's argument proves far too much, and seeks to preclude EPA from exercising authority well within the Agency's purview.

3. Conclusion. In closing on this issue, EPA stresses that it is not finding that Cadence is engaging in an unsafe or undesirable recycling practice. Quite the opposite—Cadence has found a means of utilizing resources in wastes, coupled with destruction of the wastes toxic constituents, that appears to be environmentally beneficial. What EPA is finding in this proceeding is that the Agency is empowered—that is, has the jurisdiction—to evaluate the potential risks posed by this recycling activity and to prescribe regulatory standards if the Cadence product, managed improperly (see RCRA section 1004(5)), could pose a substantial hazard to human health and the environment. This is how EPA always has read its overriding statutory duty to regulate hazardous waste management "as may be necessary to protect human health and the environment." It may be that due to the mechanics of blast furnace operation, substantially tailored (or even no standards) are needed to ensure waste destruction. EPA is investigating this question as part of its Phase II rulemaking on burning hazardous wastes. EPA is asserting here that it has jurisdiction to make this evaluation.

IV. Used Oil Subject to Regulation

A. Definition of Used Oil Fuel

These rules apply to used oil, and fuels produced by processing, blending, or other treatment of used oil, that are burned for energy recovery in a boiler or industrial furnace that is not operating under RCRA standards for hazardous waste incinerators. "Used oil" means any oil that has been refined from crude oil, used, and, as a result of such use, contaminated by physical or chemical impurities. See RCRA section 1004(36).²⁸ Used oils include the following: (1) Spent automotive lubricating oils (including car and truck engine oil), transmission fluid, brake fluid, and off-road engine oil; (2) spent industrial oils, including compressor, turbine, and bearing oils, hydraulic oils, metalworking oils, gear oils, electrical oils, refrigerator oils, and railroad drainings; and (3) spent industrial process oils.

These rules apply only to used oil and not necessarily to "oily waste". Oily wastes, such as bottom clean-out waste from virgin fuel oil storage tanks, or virgin fuel oil spill clean-up, are not used oils because the oil was never "used" for its intended purpose. Thus, oily waste is not subject to these rules

²⁸ The Agency will soon be proposing to modify the definition of used oil in the Used Oil Listing and Management Standards rulemaking.

(provided it is not mixed with used oil and that it is not a hazardous waste).

Today's rule marks the first time the Agency has used the regulatory authorities created by the Used Oil Recycling Act of 1980 (UORA). (UORA is codified substantially as sections 1004 (36)–(39) and 3014 of RCRA.) UORA requires the Agency to establish "performance standards and other requirements as may be necessary to protect public health and the environment from hazards associated with recycled oil." See RCRA section 3014(a). Burning used oil for energy recovery—the subject of this rule—is an example of recycling. See RCRA, section 1004 (37).

The regulation of used oil fuels raises the legal question of how the provisions of UORA are to be integrated with other RCRA provisions. As we stated at proposal, EPA believes that UORA authorities may be used independent of, or as a supplement to, Subtitle C of RCRA. If recycled used oil (called "recycled oil" under RCRA section 1004 (37)) is not also a hazardous waste, it is subject to regulation under the provisions of section 3014 rather than sections 3001–3006, 3008, and 3010. As noted at proposal, this has significant implications. For example, permits are not necessarily required to manage recycled oil, the criminal enforcement provisions of section 3008(d) do not apply, and the regulatory program cannot be delegated to the States under section 3006. (See Part Five of this preamble for a discussion of the impact of this rule on authorization of State programs.)

If recycled oil is also a hazardous waste, many of the Subtitle C regulations for other hazardous wastes (40 CFR Parts 262–266) may apply. Section 3014, as amended by the Hazardous and Solid Waste Amendments of 1984, provides detailed guidance on regulating recycled oil that is a hazardous waste.

Today's rule establishes a specification for used oil that is substantially excluded from regulation²⁹ and that may be burned without restriction in nonindustrial boilers or any other boiler or industrial furnace. Used oil exceeding any of the specification levels for toxic metals, flash point, or total halogens is termed "off-specification used oil" and is subject to regulatory controls. The

specification and issues pertaining to implementing the specification are discussed below.

Of major importance is how to distinguish between used oil and hazardous waste given that used oil has been frequently found to contain hazardous halogenated spent solvents and given that hazardous waste fuel is regulated differently than used oil under today's rule (as well as under the RCRA statutory scheme). For example, hazardous waste fuel is not subject to the specification and so may not be burned in nonindustrial boilers (unless the boiler operates under RCRA hazardous waste incinerator standards), and hazardous waste fuel is subject under today's rules to storage controls.³⁰

Issues pertaining to distinguishing between used oil and hazardous waste are discussed below.

B. Distinguishing Between Used Oil and Hazardous Wastes

A number of commenters took issue with EPA's discussion of how it intends to distinguish between hazardous waste and used oil (or if used oil is listed as a hazardous waste, between used oil and other hazardous wastes). See 50 FR 1690–1693. EPA indicated that there are situations where it is difficult to tell if a waste is used oil or a hazardous waste. The difficulty is in determining whether a used oil was mixed with a hazardous waste, or whether the oil became contaminated during its (the oil's) use. The legislative history of the Used Oil Recycling Act indicates clearly that used oil that is contaminated during use is to be classified as used oil and, if recycled, be subject to regulation under section 3014. See H.R. Rep. No. 98–1415 at 6.

We noted in the proposed rule that the Agency is delegated discretion in determining how to classify these situations, and set out the general principles that will guide the Agency's exercise of discretion. These are: (1) Where possible, clear, objective tests should be used to classify hazardous waste and used oil; (2) the Agency should not adopt a scheme whereby most used oil is classified as a hazardous waste ineligible for regulation under the Section 3014 standards; and (3) any objective test should ensure that massively adulterated used oils are classified as hazardous waste. See 50 FR 1691.

²⁹ As noted at proposal, a hazardous waste fuel specification is not a feasible option because of the hundreds of hazardous constituents that would have to be addressed and the difficulties of analyzing for all of these constituents.

The Agency adheres to this analysis in today's final rule, and indeed, this position had the support of most of the commenters. Several commenters argued, however, that EPA's approach showed an unwarranted bias against regulating used oil as hazardous waste, and so would lead to situations where used oil is not regulated adequately to protect human health and the environment because most of the RCRA Subtitle C standards would not apply. One commenter even went so far as to suggest that the Agency was misreading its legal mandate under the HSWA to regulate used oil as a hazardous waste.

These commenters misapprehend both the law and EPA's stated approach. In the first place, RCRA as amended draws clear distinctions between hazardous waste and used oil. The statute contains a separate provision dealing with used oil as a distinct class and authorizes separate standards for its management. (See RCRA section 3014.) Nor does the statutory directive that EPA decide whether to list used oil as a hazardous waste (RCRA section 3014(b)) obliterate this distinction. Even if EPA lists used oil as a hazardous waste (and the Agency intends to propose such action later this year), used oil would still be subject to regulation under different standards than apply to other hazardous wastes. See RCRA sections 3004(a) and 3014(c), (d). Thus, it remains necessary to distinguish between used oil and other hazardous waste.

It also is clear that EPA has discretion on how to make these distinctions. The legislative history to the 1984 amendments is explicit on this point. See S. Rep. No. 98–284, 98th Cong. 1st Sess. at 36, 38; see also the Conference Report, H. Rep. No. 98–1133, 98th Cong. 2d Sess., which speaks of used oil contaminated with hazardous waste as used oil to be regulated under Section 3014 (i.e., as a used oil, not as a hazardous waste).³¹

EPA takes sharp issue with the commenters' assumption that its proposed (and now final) exercise of discretion in classifying used oil leads to a reduction in environmental protection. With respect to burning used oil, the rule promulgated today establishes a used oil fuel specification that regulates as necessary to protect human health and the environment, within the meaning of RCRA section 3014, when the used oil is burned in nonindustrial boilers. (See

³¹ Specific comments that EPA exercised its discretion improperly with regard to used oil containing halogenated hazardous substances and used oil from small quantity generators are addressed in the preamble sections dealing with these issues.

²⁹ The person who first claims used oil burned for energy recovery meets the specification is subject to notification, used oil analysis, and recordkeeping requirements. In addition, he must keep records of the name and address of the facility receiving each shipment, the date of delivery, and quantity delivered. See § 266.43(b) (1) and (6).

section IV.C above.) With respect to other management standards for recycled used oil, EPA will soon be proposing cradle to grave management standards for such oil consistent with Section 3014. EPA is not doing so in this rulemaking because the Agency wishes to avoid piecemeal regulation of the used oil management community wherever possible.³² The commenters are incorrect, however, that this temporary deferral will lead to an ultimate reduction in environmental protection.

We discuss below how we apply the principles for distinguishing between used oil and hazardous waste to: Used oil containing halogenated wastes; used oil containing hazardous waste generated by small quantity generators; and used oil that exhibits a characteristic of hazardous waste.

1. *Used Oil Containing Halogenated Wastes.* Today's rule, like the proposed rule, reiterates the principle found in § 261.3(a)(2) of the existing regulations that a hazardous waste mixed with a solid waste is a hazardous waste. Thus, under this rule, mixtures of hazardous waste and used oil ordinarily are classified as hazardous waste. It is not always possible, however, to prove—or even to be sure—that such mixing has occurred, particularly when no one has observed the act of mixing. Used oil containing small amounts of hazardous halogenated compounds is an example where there may be uncertainty.

Since hazardous halogenated compounds—many of them hazardous waste—are frequently found in used oil (see Table 1 in the proposal (50 FR 1688)), the Agency believes (and virtually all commenters agreed) that a simple, objective test is needed to determine when used oil has been mixed with hazardous spent halogenated solvents (or other halogenated hazardous waste) in order to avoid case-by-case confusion as to when mixing has occurred, and to aid in consistent enforcement of the regulation. To this end, EPA proposed, and is adopting today a rebuttable presumption as to when mixing with hazardous wastes has occurred.

a. *The Rebuttable Presumption: The Standard and Means of Rebuttal.* Today's rule establishes a rebuttable presumption that used oil containing more than 1,000 ppm total halogens has

been mixed with hazardous spent halogenated solvents (i.e., EPA Hazardous Waste No's. F001 and F002) or other hazardous halogenated wastes and, therefore, is a hazardous waste under provision of the "mixture rule" of 40 CFR 261.3 (i.e., a mixture of a listed hazardous waste and other material is a hazardous waste unless delisted under provisions of 40 CFR 260.20).

In response to comment that EPA clarify the available means of rebutting this presumption, the final rule states that the presumption can be rebutted by demonstrating to enforcement officials that the oil is not mixed with hazardous waste. One such approach in making this demonstration is to show that the used oil does not contain significant levels of halogenated hazardous constituents. See § 266.40(c). Thus, the presumption can be rebutted successfully even if some hazardous halogenated compounds are present in the oil. We believe that oil containing less than on the order of 100 ppm of any individual hazardous halogenated compound listed as a hazardous spent solvent (i.e., EPA Hazardous Waste Numbers F001 and F002) should not be presumed to be mixed with spent solvent. As the Agency stated at proposal (50 FR 1691) and as confirmed by a number of comments, when these compounds are present at such low levels, it is difficult or impossible to pinpoint the source of the contamination. Such low levels found at the generator's site certainly do not indicate deliberate mixing with solvents.³³ Both used oil and hazardous halogenated solvents are frequently generated by the same facility, and some incidental contamination is probably inevitable. It should be noted that burning used oil with such levels of solvent will not pose significant risk from emissions of either incompletely burned solvents or hydrochloric acid.³⁴

Presence of a compound listed as a hazardous halogenated spent solvent at levels between 100 and 1000 ppm may indicate mixing with spent solvent depending on circumstances specific to individual cases. For example, if the used oil in question is from a large tank at a processing facility where oil from a number of generators has been mixed,

even low solvent levels may be indicative of adulterative mixing. Used oil mixed with significant levels of solvent by a generator may have been diluted with unadulterated oil from other generators, or spent solvent collected from a generator may have been mixed (illegally) into the used oil by a collector or the processor.

Mixing of used oil with *nonsolvent* halogenated hazardous waste, however, could be indicated by the presence of hazardous constituents at levels lower than 100 ppm. For example, if a waste is not typically cogenerated with used oil, incidental contamination is not likely. Other factors include whether the hazardous constituents could be added or formed during use of the oil. Thus, if a used oil contains greater than 1000 ppm total halogens, and some of the halogens are (for example) chlorophenoxy pesticides, the presumption of mixing would not necessarily be overcome by showing that the pesticide is present at levels less than 100 ppm.

b. *Explanation of Changes in the Rebuttable Presumption Between Proposal and Final Rule.* The rebuttable presumption of mixing hazardous halogenated solvents with used oil promulgated today differs from the proposal in two respects: total halogens rather than total chlorine is used as the basic indicator, and the indicator level has been lowered from 4000 ppm to 1000 ppm. Total halogens are used as the indicator because commenters noted that common chlorine tests actually measure total halogens reported as total chlorine. The change, thus, is essentially a technical correction because the used oil analyses available to the Agency and used to support the rule already reported presence of total halogens as total chlorine.

We lowered the indicator level from 4000 ppm to 1000 ppm because many commenters argued that the higher level would allow and even encourage significant mixing of hazardous halogenated solvents with used oil (contravening one of EPA's enumerated principles). More importantly, this level correlates sufficiently well with presence of significant levels of hazardous halogenated spent solvents as to justify use of a presumption, as discussed below. The 1000 ppm total halogen level was in fact recommended by a number of commenters, including the State of New York which has substantial experience with this issue.

We have reviewed the more than eleven hundred used oil analyses available in the record for the proposed rule and the additional data submitted by commenters and concluded that used

³² EPA is adopting the used oil fuel specification for nonindustrial boilers in advance of other rules for recycled oil to meet the most pressing environmental concern with respect to recycled oil management, and because the prohibitions on hazardous waste burning would have little practical significance unless coupled with controls on burning recycled oils.

³³ For example, if 100 ppm of a solvent is detected in 200 gallons of used oil (the quantity frequently generated over a month by a service station, prior to pick up by a collector), only 0.002 gallons, or 0.25 ounces of solvent have been mixed. Such small amounts could not possibly represent the monthly quantity of spent solvent from degreasing operations at the service station.

³⁴ PEDCO, Environmental Inc., *A Risk Assessment of Waste Oil Burning in Boilers and Space Heaters*, August 1984, pp. 5-1 through 5-8.

oil will generally contain less than 1000 ppm of total halogens *unless* it is mixed with hazardous chlorinated solvents or is metalworking oil containing chlorinated additives.³³ Eighty-seven percent (87%) of the samples from a wide range of sources—generators, processors, distributors, burners—that contain more than 1000 ppm total chlorine (halogens) also contained significant levels of hazardous chlorinated solvents (e.g., more than 100 ppm of any particular solvent).^{34, 37} Some of the 13% of the samples containing more than 1000 ppm total chlorine but no chlorinated solvents are known to be metal-working oils (either because they were obtained from generators known to be involved in metal-working or because of their extremely high chlorine content) containing nonhazardous chlorinated additives. Others may be mixed with these highly chlorinated metalworking oils such that chlorine levels are greater than 1000 ppm but lower than typical for metalworking oils, or the chlorine may be from some other source.³⁸ Based on

³³ Some metalworking oils contain extreme pressure additives that are nonhazardous highly chlorinated paraffinic compounds. Thus, used metalworking oils may contain halogen levels higher than 1000 ppm even though they are not mixed with hazardous halogenated solvents. See discussion in text regarding application of the rebuttable presumption to these metalworking oils.

³⁴ Based on review of analyses in Franklin Associates Ltd., *Composition of Used Oil*, Appendix A. Of the more than 1100 used oil analyses, 311 samples contained more than 1000 ppm of halogens and were analyzed for halogenated solvents. Eighty-seven percent of those samples contained significant levels of solvent. We presumed that samples with high lead levels, no halogenated solvents, and low halogen levels (but more than 1000 ppm of halogens) would contain less than 1000 ppm halogens when lead is phased out of gasoline, because chlorine or bromine is added to gasoline only to scavenge lead from engine components. Thus, halogen levels will fall as lead is phased out of gasoline. Thus, 28 such samples are excluded from the samples containing more than 1000 ppm of halogens.

³⁷ The Texas Air Control Board submitted comments on the proposed rulemaking that included a report entitled, *Analysis of Fuel Oils and Waste Oils for Sulfur, Organochlorides, and Lead*, August 1984. Data in Table VI of that report indicate that 77% of used oils (27 of 35 samples) containing more than 1000 ppm total halogens also contained significant levels of hazardous halogenated solvents.

³⁸ Although used oil samples have been found to contain hazardous halogenated compounds listed in Appendix VIII of Part 261 (e.g., dichloroethane, tetrachloroethane) that are not listed as F001 or F002 hazardous halogenated solvents, these samples invariably also contain significant levels of the F001 or F002 solvents. See Table VI of the Texas Air Control Board report referenced in note 27, and data in GCA Corporation, *The Fate of Hazardous and Nonhazardous Wastes in Used Oil Disposal and Recycling*, October 1983, p. 43.

these data showing a high percentage of correlation, and on the supporting comments, it is EPA's opinion that the 1000 ppm total halogen level is a valid indicator for presence of mixing with listed halogenated hazardous waste.

EPA expressed concern at proposal that certain used oils might contain levels of *inorganic* halogens greater than 1000 ppm, and therefore, that a higher level was appropriate for the presumption. The Agency no longer believes this to be a valid concern. The Agency stated at proposal that used oil, particularly crankcase oil from leaded gasoline engines, could occasionally contain up to 3000 ppm inorganic chlorine (or bromine) levels^{39, 40} and that the higher level of 4000 ppm would indicate mixing with chlorinated solvents. Chlorine or bromine are added to leaded gasoline to "scavenge" lead from engine components and, thus, reduce wear and improve engine performance. The chlorine or bromine form inorganic lead compounds, some of which end up in crankcase oil from engine blow-by. Commenters suggested, however, that little used oil has levels of these inorganic halogens exceeding 1000 ppm. As further corroboration, EPA's own data on used oil sampled at generators' sites (including both crankcase and industrial oil, but excluding highly chlorinated metalworking oil or oil adulterated with hazardous halogenated solvents) indicates that the oil contained less than 1000 ppm total halogens in 32 of 36 cases.^{41, 42} In addition, as lead is phased out of gasoline, chlorine and bromine additives also will be lowered, thus reducing inorganic halogen levels. EPA consequently believes that very few used oils will trip the presumption due

³⁹ NBS Technical Note 1130—*Test Procedures for Recycled Oil Used as Burner Fuel*, August 1980, p. 51.

⁴⁰ Franklin Associates, Ltd., *Composition of Used Oil*, Appendix A.

⁴¹ Based on review of used oil analyses in Franklin Associates, Ltd., *Composition of Used Oil*, Appendix A. We should note that 3 crankcase oil samples contained 1000 to 1500 ppm total halogens (and no halogenated solvents). We presume the halogens were attributable to leaded gasoline additives because those oils had high lead levels—1000 to 3000 ppm. We presume that those oils would in the future contain less than 1000 ppm total halogens as lead is phased out of gasoline (beginning July 1985), and, concurrently and necessarily, halogen gasoline additives are also reduced. Therefore, we believe it is reasonable to exclude these 3 samples from the total halogens so that 35 of 36 unadulterated, nonmetalworking samples containing more than 100 ppm total halogens.

⁴² Data in GCA Corporation, *The Fate of Hazardous and Nonhazardous Wastes in Used Oil Disposal and Recycling*, October 1983, p. 43, also indicate that used oil generally contains less than 1000 ppm total halogens.

to inorganic halogen content of over 1000 ppm. Moreover, as just discussed, there is a strong correlation between halogen levels of 1000 ppm and high levels of hazardous halogenated solvents, even in EPA's present data base which does not reflect the lead phasedown.

Nor do most used oils contain high levels of *organic* halogens without also containing high levels of halogenated spent solvents. The only used oils that might be metalworking oils, which comprise a small segment of the used oil fuel market. See 50 FR at 1692 (January 11, 1985). Metalworking oils can contain extreme pressure additives that are nonhazardous chlorinated paraffinic compounds that can result in organic chlorine levels of several percent. These organic chlorinated compounds are not toxic (i.e., they are not listed as constituents of hazardous waste in Appendix VIII of Part 261), and, thus, the hazard from incomplete combustion of these compounds is not of concern.⁴³ The issue here is application of the presumption to these oils.

We believe that the rebuttable presumption of mixing halogenated solvents with used oil should still apply to persons who manage highly chlorinated metalworking oils. In the first place, these oils can still be mixed with hazardous halogenated solvents (as confirmed both by data and by comments on the proposed rule). Metalworking operations often use large quantities of degreasing solvents. Second, metalworking oils also can be adulterated with halogenated hazardous wastes after leaving the site of generation. Finally, persons managing used metalworking oils that are not adulterated should have readily available means of rebutting the presumption.⁴⁴

c. Additional Response to Comment on the Rebuttable Presumption. (1) Basis for Not Setting the Halogen Indicator Level on Risk. Some commenters maintained that the chlorine level for the presumption of mixing should be based on risk posed by the solvent/oil mixture, rather than on the basis of mixing, *per se*. These

⁴³ We are, however, concerned about the acid-forming potential of these compounds when combusted, and the resultant emissions of hydrochloric acid and the effects of accelerated corrosion on boiler parts and any emission control equipment. These oils will fail the used oil fuel specification for total halogens and are subject to regulation as off-specification used oil (see section IV.C of text).

⁴⁴ As noted earlier, the final rule indicates that one way the presumption may be rebutted is by showing that the oil does not contain significant levels of halogenated hazardous constituents.

comments mistake the Agency's purpose: to distinguish used oil from hazardous waste. As EPA pointed out in the preamble to the proposed rule, the basis of the presumption is not a new concept. Section 261.3(b) says that when a solid waste is mixed with a hazardous waste, the mixture is a hazardous waste unless it does not exhibit a characteristic of hazardous waste, or, if the hazardous waste was a listed waste (like many halogenated solvents), unless the mixture is delisted under petitioning provisions of 40 CFR 260.20 and 260.22. The rebuttable presumption merely provides a simple, objective test for when the Agency will presume such mixing has occurred. The risks posed by burning both hazardous waste (including adulterated used oil) and off-specification used oil are addressed in today's rule with respect to burning in nonindustrial boilers and will be addressed further by the permit standards for burning such fuels in industrial boilers and industrial furnaces.

We note further that a number of commenters erred by considering the rebuttable presumption level for total halogens to fix the level at which used oil containing halogens would be subject to regulation (assuming no other source of adulteration). The rebuttable presumption is not a measure of when regulation is necessary, but a measure of when mixing can be presumed to have occurred. Used oil containing halogens, at less than the presumption level could still be regulated as hazardous waste, but the burden would be on EPA to prove that such used oil is a hazardous waste by virtue of mixing with a listed hazardous waste. See 50 FR 1692, n. 22. EPA's burden would not automatically be satisfied by showing evidence of halogen levels in the used oil.

(2) *Organic Versus Total Halogens as the Indicator Level.* Several commenters suggested that organically-bound chlorine (or, more correctly, halogens) rather than total chlorine should be used for the presumption of mixing because it avoids the problems with inorganic halogens discussed above (i.e., some oils with insignificant hazardous halogenated solvent levels may contain more than 1000 ppm total halogens because of presence of inorganic chlorine). After serious consideration, we have decided to base the presumption on total halogen levels due to the problems of implementing a standard based on organic halogens.

We know of no quick, simple method for determining organically-bound halogen levels in used oil. The sample must be "washed" to remove inorganic

halogens before determining organic halogen levels. Moreover, we have only just recently investigated techniques for washing to remove inorganic halogens from used oil and are not yet ready to recommend a procedure. Even if an acceptable technique were available, washing would add substantially to the time required to determine halogen levels. (See discussion of analytical procedures in section IV-F of Part Two of this preamble.) The need for washing also would raise analytical costs unnecessarily.

In addition, organic halogens would be a more accurate measure of presence of hazardous halogenated solvents than total halogens only if used oil often contains more than 1000 ppm of inorganic halogens. We have discussed above, however, that the data indicate that inorganic halogen levels are generally lower than 1000 ppm. Finally, use of organic halogens rather than total halogens does not avoid the problem of occasional false-positives caused by nonhazardous organic chlorine additives found in metalworking oils.

In summary, a presumption based on organic halogen levels offers few advantages and has serious problems.

2. *Used Oil Containing Hazardous Waste Generated by Small Quantity Generators.* EPA proposed that used oil containing hazardous waste generated by small quantity generators be regulated as used oil. 50 FR 1692. The Agency reasoned that in exercising its discretion as to how to classify used oil (i.e., as used oil or as hazardous waste), EPA should avoid a scheme whereby most used oil was classified as hazardous waste ineligible for regulation under the special standards for used oil. EPA was concerned that this might result if small quantity generator hazardous waste-used oil mixtures were classified as hazardous waste. *Id.* At the same time, EPA solicited comments on alternative approaches, including regulating used mixtures as hazardous waste or classifying only automotive oil containing small quantity generator waste as used oil. *Id.* at n. 24.

Comments were divided. Although some commenters supported the Agency, others were critical, maintaining that EPA's proposal could encourage adulteration of used oil, and lead to significant enforcement problems.

EPA has decided to modify its proposal, in part due to the public comments. More importantly, however, our re-evaluation of available data indicates that few small quantity generators are presently mixing

hazardous waste with used oil. Analyses indicate that fewer than 15% of the generators of crankcase oil (who are presumed to be small quantity generators), and fewer than 12% of the generators of industrial oils (some of whom may have been small quantity generators), generate used oil that is mixed with significant levels of halogenated hazardous solvents.⁴⁵ In addition, the average vehicle maintenance shop or service station, according to EPA's data,⁴⁶ produces an average of 50 kg/month of hazardous waste in the form of spent solvents, and 500 kg/month of used oil. Intentional mixing would yield a contamination rate of 10%, or 100,000 ppm. The data in the following table show that actual contamination at the generator site, with few exceptions, is orders of magnitude lower and so probably results from inadvertent, and perhaps unavoidable, contamination during use of the oil or handling of used oil.⁴⁷

⁴⁵ Analysis of 21 samples of crankcase oil known to be obtained from the generator (e.g., service stations, auto repair shops, truck dealer, construction equipment facility), and thus not adulterated with solvents by collectors or processors, reveals that only 3 contain significant levels of hazardous halogenated solvents. Analysis of 26 samples of industrial oil known to be obtained from the generator indicate only 3 contain significant levels of hazardous halogenated solvents. Analysis of data in Franklin Associates, Ltd., *Composition of Used Oil*, Appendix A.

⁴⁶ Industrial Economics, Inc., *Draft Regulatory Analysis for Proposed Regulations Under RCRA for Small Quantity Generators of Hazardous Waste*, February 1985, Draft Report, Exhibit 3-1.

⁴⁷ Several commenters mistakenly criticized EPA's statement at proposal (50 FR 1692) that small quantity generators do not massively adulterate their used oil. They reasoned that because most used oil comes from small quantity generators, and much is adulterated, that the generators are doing the adulteration. In fact, all data indicate that collectors and processors are the principal source of hazardous waste contamination. Comparison of used oil sampling data from generators and from processing facilities in the table below shows a dramatic increase in halogenated solvent levels at used oil processing facilities.

Solvent Concentrations Increase Dramatically as Used Oil Moves From the Generator to Processing Facilities

	Solvent Concentrations, ppm (90th percentile levels)		
	Solvent A ¹	Solvent B ²	Solvent C ³
Oil sampled at generator site:			
Automotive oil	16	11	83
Industrial oil	33	39	80
Oil sampled at processing facility:			
Automotive oil	6,000	800	3,000
Industrial oil	3,500	600	2,200

¹ 1,1,1-Trichloroethane.

² Trichloroethylene.

³ Tetrachloroethylene.

Source: Franklin Associates, Ltd., *Composition of Used Oil*, pp. 3-33 to 3-36.

TABLE 1.—SOLVENT CONCENTRATIONS IN USED OIL AT GENERATOR FACILITIES

Type of generator	Solvent Concentrations, ppm (90th percentile levels)		
	Solvent A ¹	Solvent B ²	Solvent C ³
Automotive oil	16	11	95
Industrial oil	33	33	60

Notes:

¹ 1,1,1-Trichloroethane² Trichloroethylene³ TetrachloroethyleneSource: Franklin Associates, Ltd., *Composition of Used Oil*, pp. 3-33 to 3-36.

Consequently, it does not appear that classifying small quantity generator waste-used oil mixtures as hazardous waste would result in classifying large percentages of used oil as ordinary hazardous waste. As a factual matter, EPA's stated concern at proposal thus does not appear to be present.

The final rule thus states that this type of mixture is to be *classified* as a hazardous waste. (But, as explained below, at least for purposes of this rulemaking, these mixtures are subject to regulation as used oil fuel when burned for energy recovery.) We have decided, however, at least for the time being to regulate this (usually exempt) small quantity generator waste regardless of the quantity generated when it is mixed with used oil as part of a waste-derived fuel. EPA is taking this step for a number of reasons. To do otherwise would create the very situation feared by the commenters whereby the rules would create an incentive to adulterate and be much more difficult to enforce. This is because if small quantity generator waste could be mixed with otherwise-regulated used oil and the mixture was exempt from regulation, people undoubtedly would take advantage of the opportunity to escape regulation, or raise the issue of mixing as a defense in enforcement actions. Potentially large volumes and percentages of recycled used oil could go unregulated, in derogation of Congressional intent.⁴⁶ Thus, the final

⁴⁶ The Agency is also of the initial view that if used oil is listed as a hazardous waste then *unmixed* recycled used oil should continue to be regulated, regardless of quantity generated. (Regulation probably would begin once used oil is aggregated.) EPA's reasoning for regulating this type of hazardous waste differently from other small quantity generator hazardous wastes will be set out more fully in the soon-to-be-proposed regulations listing used oil as a hazardous waste and proposing management standards for recycled oil, but in summary:

- Exempting small quantity generator used oil (used oil generated in quantities of 0-100 kg per month) would exempt approximately 9 per cent of all used oil generated. In contrast, the exemption for small quantity generator hazardous waste (hazardous waste generated in monthly quantities of 0-100 kg per month) exempts only 0.017 per cent of all hazardous waste. EPA does not believe such a

rule contains an amendment to § 261.5 indicating that small quantity generator hazardous waste-used oil mixtures are not exempt from regulation when burned for energy recovery but are subject to Subpart E of Part 266.

This means that, at least on an interim basis, such mixtures can be burned in nonindustrial boilers if they meet the fuel specification. These mixtures also are subject to the administrative controls for off-specification used oil fuels should they fail to meet the fuel specification. Generators of these mixtures would *not* be subject to regulation unless they are also marketers of used oil fuel. (See Part Four below.)

EPA has not reached a final decision on which controls should apply to this type of hazardous waste. We also wish to examine further, and seek comment on, the impacts on small businesses should all of these hazardous wastes be regulated at various levels of control. See RCRA section 3001(d). Because we believe further comment on an ultimate regulatory regime is appropriate, we have decided to retain as an interim measure the regulatory scheme initially proposed whereby this type of small quantity generator waste remains subject to all of the controls applicable to used oil fuel. This will ensure that there is no outright exemption while the Agency evaluates an ultimate resolution in its consideration of comment on the comprehensive rules for recycled oil soon to be proposed.

3. *Used Oil that Exhibits a Characteristic of Hazardous Waste.* Used oil itself might be a hazardous waste if it exhibits a characteristic of hazardous waste. The most likely

result consistent with Congressional intent that recycled oil be regulated as necessary to protect human health and the environment, particularly in light of statements of evident legislative intent that crankcase oil (which is generated by small quantity generators) be regulated. See RCRA section 3014(b); H.R. Rep. 98-1415 at 6.

- The total volume of recycled used oil generated by small quantity generators is significantly greater than that of all other small quantity generator hazardous wastes combined: 340,000 tons/year vs. 180,000 tons/year.

- Unregulated small quantity generator used oil could have greater potential for coming into direct human contact than other small quantity generator wastes because such a large volume is burned in the residential market.

Thus, the Agency sees important distinctions between small quantity generator used oil and other small quantity generator hazardous waste. This reasoning also applies to regulating recycled oil in today's final rule—prior to recycled oil being a hazardous waste—without regard for quantity generated. (The Agency is not reaching the question of whether, assuming there was no difference between small quantity generator used oil and other small quantity generator hazardous waste, other hazardous waste generated in volumes of 0-100 kg per month should be regulated.)

possibility is ignitability.⁴⁹ ⁵⁰ As discussed at proposal (see 50 FR at 1693), EPA intends that used oil that is a hazardous waste solely because it exhibits a characteristic of hazardous waste be regulated as used oil fuel (where so recycled), provided that it is not mixed with a hazardous waste.⁵¹ Ignitable used oil is regulated as used oil under today's rule and is prohibited from burning in nonindustrial boilers when its flash point is less than that of commercial fuel (i.e., 100 °F).

We have considered whether a low flash point serves as a presumptive indication of mixing with hazardous waste, and therefore, that such mixtures should be regulated as hazardous wastes ineligible for regulation under section 3014 standards for used oil. We conclude that low flash point is not an indicator of mixing for a number of reasons and that such oil should be regulated as used oil.

Low flash point may not be indicative of mixing with hazardous waste because the low flash point may be attributable to benzene, toluene, or xylene added to crankcase oil from engine blow-by (these compounds are constituents of gasoline) rather than as spent solvent. Low flash point could also be attributable to mixing gasoline from tank drainings at auto service and repair shops with used oil. Gasoline is a commercial chemical product exhibiting a characteristic of hazardous waste. When gasoline (or any commercial chemical product) is discarded, it is subject to regulation as hazardous waste. But when a commercial chemical fuel is recycled (e.g., mixed with used oil and burned for energy recovery), it is not discarded (within the meaning of the rule) and so is not a hazardous waste. See § 261.33 (July 15, 1985) and 50 FR 618 (January 4, 1985).

In addition, today's rule for burning low flash point used oil (or any off-

⁴⁹ Although most used oils have a flash point greater than 200 °F, 25% of the used oil samples had a flash point less than 140 °F. Source: Franklin Associates Ltd., *Composition of Used Oil*, p. 3-56.

⁵⁰ Although used oil may contain high levels of lead, arsenic, cadmium, chromium, or barium, it does not often exhibit the characteristic of EP Toxicity for these metals. In addition, these metals are present in used oil almost invariably as a result of the oil's use, not as a result of adulteration with hazardous waste. Nevertheless, since these metals can pose a hazard when used oil is burned for energy recovery, the specification for used oil that may be burned in nonindustrial boilers limits levels of arsenic, cadmium, chromium, and lead. Barium levels are not considered to pose a substantial health hazard and, thus, barium is not included in the specification. (See section IV.C in the text.)

⁵¹ Except that mixtures of small quantity generator hazardous waste and used oil are subject to regulation as used oil, as discussed above.

specification used oil) provides a level of environmental protection analogous to that provided by the rules for burning hazardous waste fuels. Neither hazardous waste fuel nor off-specification used oil fuel may be burned in nonindustrial boilers. The only area where the classification as used oil results in less regulation is with respect to storage and transportation of off-specification used oil. Although not regulated by today's rule, storage and transportation of off-specification used oil is addressed in the Used Oil Listing/Management Standards soon to be proposed. The purpose of today's rule is to begin regulation of blending and burning activities by prohibiting burning of hazardous waste and contaminated used oil in nonindustrial boilers. Other rulemakings will propose comprehensive regulations under section 3014 for storage and transportation of used oil, and for the actual burning of off-specification used oil and hazardous waste fuels in industrial boilers and industrial furnaces. Thus, the primary purpose of today's final rule is met by regulating low flash point oils as off-specification used oil rather than as hazardous waste, while decisions on appropriate controls (and impacts) for storage and transportation of off-specification used oil are left to the rulemaking specific to used oil that will be proposed under section 3014.

Commenters asked whether used oil known to be mixed with a characteristic hazardous waste is regulated as used oil fuel or hazardous waste fuel if the mixture exhibits a characteristic. As discussed above, used oil mixed with hazardous waste is regulated as hazardous waste fuel.⁵² It is only when we are uncertain that mixing has occurred that we give the benefit of doubt (e.g., low flash point used oil and used oil containing less than 1000 ppm total halogens) and do not presume that mixing has occurred. Thus, when used oil has been mixed with a characteristic hazardous waste, the mixture is regulated as hazardous waste fuel if it continues to exhibit a characteristic. If the resultant mixture no longer exhibits a characteristic of hazardous waste, it is regulated as used oil.⁵³ This is merely a

statement of the "mixture rule" in § 261.3.

Some used oils may exhibit a characteristic of hazardous waste but meet the specification for used oil fuel exempt from regulation.⁵⁴ Examples are used oil fuel with a flash point less than 140 °F, the hazardous waste characteristic, but greater than 100 °F, the specification level, and (much less frequently) used oil fuel with metals levels (particularly lead) greater than the EP toxic characteristic levels, but less than the specification levels. Although such used oils are exempt from regulation and may be burned in nonindustrial boilers, the specification ensures that such burning would not pose significantly greater risk than burning virgin fuel oil.

C. The Specification for Used Oil That May Be Burned in Nonindustrial Boilers

The Agency has developed a specification for used oil fuel that may be burned without regulation (i.e., burned without regulation in nonindustrial boilers as well as other boilers or industrial furnaces). Given that oil meeting specification parameters may be burned in nonindustrial facilities like apartment and office buildings, the specification is intended to be protective under virtually all circumstances.

In this section of the preamble, we discuss comments on EPA's risk assessment, the basis for selecting specification parameters and levels, and explain the changes made in the specification in response to comments. We also explain why we rejected certain commenters' arguments that off-specification used oil should not be blended to meet the specification and that all burning of used oil in nonindustrial boilers should be prohibited. Finally, we provide guidance on analytical procedures and testing frequency to determine conformance with the specification and the rebuttable presumption of mixing hazardous halogenated solvents.

1. Comments on EPA's Risk Assessment. EPA considered regulating any contaminant typically found in used oil in higher concentrations than in virgin oil, and which also was determined to pose a significant risk to human health and the environment when burned. Some commenters argued that EPA's risk assessment approach is overly conservative resulting in

unnecessarily stringent regulations, while others argued that the assessment did not adequately consider all risks.

The Agency believes the PEDCo risk assessment⁵⁵ adequately indicates the potential for substantial risk from burning used oil in urban areas. The risk assessment, with one exception, is used to indicate potential risk, not to actually set specification levels based on some qualification of risk.⁵⁶ We used the risk assessment to identify those constituents that may pose increased risks at levels that are cause for concern given the large number of exposed individuals in urban areas. When those constituents are typically found in used oil at levels greater than in virgin fuel oils (i.e., the 95th percentile level in No's. 2-6 fuel oils), they were included in the specification at their 95th percentile levels in virgin fuel oils. We reasoned that higher levels could pose substantial risk, and levels lower than found in virgin fuel oil would not provide protection of human health and the environment if used oil is replaced (as it would be) by virgin oil.

The PEDCo risk assessment is fully documented in a published report, a copy of which is in the public docket. The assessment is also summarized in some detail in the proposal. See 50 FR 1693-1700. The primary inputs to the emissions models were actual data (e.g., composition of used oil based on hundreds of analyses; emissions were modeled for the New York City urban area considering actual meteorological conditions and projections of used oil burning based on actual density and location of multi-family dwelling units). Boiler emissions were projected assuming 97% destruction of organics and a 75% emission rate for metals. The Agency considers the 97% destruction efficiency for organics reasonable but conservative given that test burn data indicate that very small boilers can achieve 99% to 99.99% destruction efficiency for hard-to-burn chlorinated compounds.⁵⁷ Although data on metals emissions rates are very limited, the available data indicate that metals emissions rates average 31 to 75%, with chromium having the lowest rate and lead the highest.⁵⁸ We thus consider a

⁵² Except that mixtures of small quantity generator hazardous waste and used oil are subject on an interim basis to regulation as used oil (although classified as hazardous waste fuel).

⁵³ It should be noted that mixing a characteristic hazardous waste with another material to render the waste nonhazardous constitutes treatment of hazardous waste subject to applicable standards under 40 CFR Parts 264-265 and 270, and the notification requirements of section 3010 of RCRA.

⁵⁴ We have noted above that the rule provides the same level of protection for burning hazardous waste fuel and for burning used oil exhibiting a characteristic of hazardous waste that also is off-specification used oil fuel. This is because neither hazardous waste fuel nor off-specification used oil fuel may be burned in nonindustrial boilers.

⁵⁵ PEDCo Environmental Inc., *A Risk Assessment of Waste Oil Burning in Boilers and Space Heaters*, August 1984.

⁵⁶ For lead, the risk assessment is used to estimate the high end of the proposal specification range. See 50 FR 1697-1699 (January 11, 1985).

⁵⁷ GCA Corp., *Environmental Characterization of Waste Oil Combustion*, May 1984, pp. 16 and 20.

⁵⁸ PEDCo Environmental Inc., *Risk Assessment of Waste Oil Burning*, January 1984, pp. 3-17 and 3-20.

75% emissions rate for metals to be a realistic, but reasonably conservative assumption.

The two air dispersion models used to estimate ground level concentrations of contaminants are routinely used by EPA for that purpose. Estimated ambient levels were used to project the increased risk from carcinogenic compounds and to determine whether levels of other compounds that have a safe or threshold level of exposure (i.e., threshold compounds) would be likely to cause substantial adverse health effects. The compounds considered to be carcinogenic and their potency factors were obtained from EPA's Carcinogen Assessment Group. To determine whether chronic exposure to the estimated ambient levels of threshold compounds would pose a health hazard, Environmental Exposure Limits (EEL's) were calculated. EEL's are based primarily on workplace threshold limit values (TLV's) published by the American Conference of Governmental Industrial Hygienists. The TLV's are adjusted mathematically for use in assessing environmental exposure by considering a number of factors including: exposure duration, population susceptibility, and the nature and conditions of the experimental health effects data. TLV's are typically used by the Agency to project safe levels of exposure when more appropriate animal health effects data are not available. The limitations of using TLV's to determine EEL's are well documented by PEDCo⁵⁰.

Although some assumptions were necessary as with any risk assessment, and it can be argued that those assumptions were too conservative or too lenient, the Agency does not believe (and commenters did not show) that the use of alternate, but reasonable, assumptions would affect the outcome of the assessment.

Specific comments on particular aspects of the risk assessment are discussed below.

2. Specification Parameters. As discussed above, EPA identified typical contaminants of used oil and proposed specification levels for those compounds found in higher concentrations in used oil than in virgin refined fuel oil and which could also pose a significant health risk when burned. (See Table 2 below.) We did not propose specification levels for compounds found in used oil at the same or lower levels than are found in virgin refined fuel oil because users could simply switch to

virgin oil to replace the recycled product without any environmental benefit.

We have added total halogens and deleted PCBs from the specification, as discussed below. We also respond below to comments that a number of other constituents should be added to the specification.

TABLE 2.—USED OIL FUEL SPECIFICATION¹

Constituent/ property	Proposal allowable level	Final rule allowable level
Arsenic.....	5 ppm maximum	5 ppm maximum.
Cadmium.....	2 ppm maximum	2 ppm maximum.
Chromium.....	10 ppm maximum	10 ppm maximum.
Lead.....	10-100 ppm maximum ²	100 ppm maximum.
PCBs Total	50 ppm maximum	4000 ppm maximum.
halogens.		
Flash point	100 °F minimum	100 °F minimum.

¹ The specification applies only to used oil that is not mixed with hazardous waste other than small quantity generator hazardous waste.

² EPA proposed to select level from the range of 10 to 100 ppm for promulgation. Lead is limited to 100 ppm by today's final rule.

a. Total Halogens. We have added total halogens to the specification because burning fuels with high chlorine levels can have direct and indirect effects on human health and the environment. As noted in background documents to the proposed rule, and as observed by a number of commenters, hydrogen chloride emissions from burning such fuels can increase ambient levels of hydrochloric acid and contribute to acid rain. Equally significant, the chlorine can also accelerate corrosion of boiler components which could decrease combustion efficiency resulting in increased emissions of incompletely burned combustion products. Corrosion of any air emissions control equipment could also be accelerated, reducing control efficiency and directly increasing emissions of pollutants. (See also H.R. Rep. 98-198 at 42 noting this concern.)

We selected a specification level of 4,000 ppm for total halogens⁵⁰ based on halogen levels in high chlorine coal. We believe that limiting halogen levels to the highest levels found in fossil fuels will ensure that burning used oils with equivalent or lower halogen levels will not accelerate corrosion rates.⁵¹

⁵⁰ It is only by coincidence that this is the same level originally proposed for the rebuttable presumption. The specification parameters apply only to used oil fuel after it has been determined that the used oil is not mixed with hazardous waste (e.g., by applying the presumption of mixing). Thus, the total halogen specification level is based on different principles and is used for different purposes than the total halogen level for the presumption of mixing.

⁵¹ Boiler manufacturers become concerned about excessive corrosion rates when coal chlorine levels exceed 2,500 ppm. A boiler burning used oil containing about 4,000 ppm chlorine would be

Although used oil normally replaces virgin fuel oil that has very low halogen levels (less than 100 ppm), we do not believe burning used oil with halogen levels found in coal will substantially increase corrosion rates. In fact, many boilers burning fuel oil were originally designed to burn coal and were converted to oil burning to meet air emissions standards.

Used oil fuel (not mixed with hazardous waste) can contain high levels of halogens from two sources. As discussed above metalworking oils are sometimes processed to produce fuel. These metalworking oils can contain extreme pressure additives that are highly chlorinated, but nonhazardous, organic compounds. Total chlorine levels in these used oils can be several percent.

In addition, "light ends" from the distillation (e.g., re-refining) of used oil can contain high levels of halogenated compounds. Although the used oil feedstock entering the distillation process contains less than 1000 ppm of total halogens and is not presumed to be a hazardous waste, the oil can contain insignificant levels of volatile, halogenated compounds (e.g., less than 100 ppm of halogenated compounds listed as hazardous spent solvents). The light ends produced from such oil will contain much higher levels of halogenated compounds due to the concentrating effect of the distillation process. These light ends are a by-product of used oil re-refining to produce recycled lube oil and are often burned on-site as fuel. These light ends are regulated as used oil rather than as hazardous waste even though their total halogen content exceeds 1000 ppm and they contain substantial levels of halogenated compounds listed as hazardous spent solvents. This is because the halogenated compounds are present in significant levels as a result of processing (i.e., they are concentrated), not as a result of mixing with halogenated hazardous waste.⁵²

When light ends containing less than 4000 ppm total halogens (but perhaps up to 4000 ppm of halogenated compounds that are listed as hazardous spent solvents) are burned, emissions of

exposed to the same quantity of chlorine per hour as it would be if it were burning coal containing 2,500 ppm chlorine. This is because the heating value of used oil is higher than that of coal (16,500 vs. 11,000 Btu/lb) and, thus, less used oil is required to provide a given boiler heat input.

⁵² Although low levels of halogenated compounds (e.g., less than 100 ppm of tetrachloroethylene) in the used oil feedstock to the distillation process may sometimes result from mixing with hazardous spent solvents, the levels are too low to presume such mixing has occurred.

⁵⁰ PEDCo Environmental Inc., *A Risk Assessment of Waste Oil Burning*, pp. E-2 through E-15.

hydrogen chloride or incompletely burned halogenated compounds will not pose a substantial risk to human health and the environment.⁶³ Light ends with more than 4000 ppm total halogens are regulated under today's rule as off-specification used oil, and as such, cannot be burned in nonindustrial boilers. We are developing permit standards for burning such oil (scheduled to be proposed in 1988) that would consider the hazard posed by the presence of hazardous halogenated constituents. (Permit standards for burning such used oil may in fact be similar to the standards for burning hazardous waste fuels.)

b. *PCBs.* EPA included polychlorinated biphenyls (PCBs) in the proposed specification only as a reference to the Agency's rules regulating PCBs. PCBs are regulated under the Toxic Substances Control Act (TSCA) and the rules are codified at 40 CFR Part 761. Those rules include controls for the use and disposal of materials containing PCBs.

PCBs are not included in the final specification promulgated today, however, because commenters indicated that the crossreference caused confusion. Specifically, commenters were concerned that setting a specification level could encourage dilution of PCBs in an attempt to avoid regulation under TSCA. Dilution to avoid regulation is expressly prohibited under the TSCA rules. See § 761.1(b).

If used oil fuel contains PCBs and also does not meet the used oil fuel specification provided by today's rules, then it is subject to the more stringent of the applicable TSCA PCB rules and today's used oil fuel rules.

c. *Other Constituents.* Commenters suggested that other used oil constituents should be included in the specification notwithstanding our arguments that these constituents either are not likely to pose substantial health risk or that they are not present in used oil at significantly greater levels than virgin oil (and lower specification levels could result in a virgin product displacing the recycled product with no environmental benefit).

(1) *Barium and Zinc.* Although we found that barium and zinc are present in used oil in concentrations 10-100 times greater than in virgin fuel oil, the Agency's risk assessment indicated that the resulting increased levels of barium and zinc would produce insignificant risks to human health and the environment.

Several commenters expressed concern over what they considered the serious health impacts of high levels of barium and zinc, and argued that EPA should err on the overprotective side by prescribing specifications for these metals. EPA continues to believe that the presence of these metals in used oil does not pose significant risk for the reasons discussed below.

EPA's risk assessment indicates that maximum ambient levels of zinc from burning used oil could represent about 2% of the Environmental Exposure Limit (EEL).⁶⁴ Thus, zinc does not have a serious impact on air quality near single or multiple sources, or in high-density urban areas.

Although the case is less clear with barium, the Agency concludes that barium likewise does not pose a serious health risk. The PEDCo risk assessment indicates that maximum ambient levels of barium could represent 80% of the EEL (*Id.*). Given that the inhalation of barium can cause toxic effects (primarily an increase in muscle excitability, particularly in the cardiac muscle), the Agency specifically asked for comment on whether barium should be added to the specification.

For a number of reasons, however, the PEDCo risk assessment overstates the risk posed by barium. The PEDCo analysis used an early survey of used oil analyses to determine barium levels in used oils. The most recent and expanded data base includes 752 barium analyses compared to the 400 analyses in the data base used by PEDCo. The 90th percentile barium levels used in the risk assessment (based on the 400 analyses) was 485 ppm, while the 90th percentile barium level in the expanded data base is only 251 ppm, about 50% lower. Given that composition data based on the expanded data base are considered more representative, the PEDCo analyses overstates ambient barium levels by a factor of two.

In addition, the PEDCo assessment estimates a safe level for lifetime exposure to airborne barium based primarily on the workplace threshold limit value (TLV). This safe level is called an Environmental Exposure Limit (EEL). See discussion above on EELs. The barium EEL calculated for the risk assessment is more than 50% lower than the safe level calculated from the interim Acceptable Daily Intake set by EPA.⁶⁵ The ADI-based safe exposure

level is considered more appropriate than the TLV-based EEL because the ADI is based on a comprehensive review of pertinent toxicologic and environmental data. EELs are commonly used for risk assessments only when ADI's have not been determined (or cannot be determined because of inadequate data). Thus, the risk posed by barium has been overstated by more than a factor of two for this reason as well.

In summary, the PEDCo assessment overstates the risk posed by barium by more than a factor of four. When these factors are considered, the maximum ambient levels (assuming clustered boilers with overlapping emission plumes, another conservative assumption) would be 0.18 $\mu\text{g}/\text{m}^3$ while the ADI-based safe level for chronic exposure is 1 $\mu\text{g}/\text{m}^3$.⁶⁶ When background ambient barium levels are added to the maximum levels from used oil burning, total ambient barium levels could range from 0.18 to 0.43 $\mu\text{g}/\text{m}^3$.⁶⁷ As with lead emissions discussed elsewhere, ambient barium levels thus would not be expected to pose significant risk except in extreme and unique "hot spot" situations (e.g., where boilers are clustered together, and receptors are located directly downwind, very close to the boilers, and at the centerline of the emissions plume), which would occur only very rarely.

(2) *PNAs.* A few commenters indicated the need to set specification levels for polynuclear aromatic compounds (PNAs).⁶⁸ A major environmental commenter was critical of EPA's risk assessment in general, and was particularly concerned with EPA's conclusion that specification levels were not needed for PNAs. The commenter argued that data cited by the Agency did

⁶³ This comparison still overstates the risk because the PEDCo assessment calculates maximum ambient levels for the month of January when used oil burning is greatest. The ADI-based safe level of exposure, however, assumes constant exposure over a lifetime. Thus, average annual ambient levels (including summer months when little used oil is burned) should actually be used for comparison to the ADI-based safe exposure level.

⁶⁴ *Op Cit.*, Peer Consultants, Inc., p. 4. It should be noted however, that it is not clear to what extent the background barium levels already include barium from used oil burning. Thus, adding the so-called background levels to levels from used oil burning also may overstate the risk.

⁶⁵ PNAs are a subset of organic compounds known as polycyclic aromatic hydrocarbons (PAHs). PNAs are of particular concern because some are known carcinogens. PAHs are compounds with two or more benzene rings, the basic structure that separates aromatic or "ringed" compounds from aliphatic or "chain" compounds. PNAs are compounds with two benzene rings fused together so that they share two carbon atoms.

⁶⁶ As discussed above, even very small boilers can achieve 90% to 99.99% destruction efficiency for halogenated compounds.

⁶⁷ PEDCo Environmental Inc., *A Risk Assessment of Waste Oil Burning*, p. 5-2.

⁶⁸ EPA Environmental Criteria and Assessment Office, *Health Effects Assessment for Barium*, June, 1984, p. 13 (Draft), and Peer Consultants, Inc., *Health Effects and Ambient Data for Barium*, October 1984, p. 2 (Unpublished Report).

not show, as the Agency indicated at proposal,⁶⁹ that PNA levels in used oil and virgin fuel oil are comparable, and that PNA emissions from burning used oil and virgin fuel oil are comparable.

We have reviewed the data used to support our decision at proposal and continue to believe that the risk posed by PNAs from burning used oil and virgin fuel oil is comparable. The following data (Table 3) show that levels of benzo(a)anthracene and benzo(a)pyrene, the PNAs typically of concern due to their carcinogenicity, in used oil and virgin fuel oil are comparable:

TABLE 3.—PNA LEVELS IN USED OIL AND VIRGIN FUEL OIL

Compound	Concentration in used oil (ppm) [90th percentile]	Concentration in virgin fuel oil (ppm) [range]
Benzo(a)anthracene	40	18-97
Benzo(a)pyrene	16	29-44

Source: Franklin Associates, Ltd., *Composition of Used Oil*, pp. 1-12 and 5-9.

Although PNA levels in distillate virgin fuels (e.g., No. 2 oil) are much lower than in residual No. 6 oil, it is reasonable to compare used oil levels in No. 6 oil because used oil frequently (indeed, most often) displaces No. 6 oil.

In addition both Recon and GCA⁷⁰ reported that they could not find detectable levels of benzo(a)pyrene (BaP) in used oil emissions during a total of 13 test burns. The BaP detectable levels ranged from 6-8 µg/m³ for the GCA tests. Further, emissions of total PNAs from burning used oil and virgin oil appear comparable. Emissions of PNAs, mostly naphthalene compounds, measured by GCA during a number of test burns at each of six sites averaged 92 µg/hr⁷¹. If virgin fuel oil had been burned rather than used oil and if total PNA emissions were 46 µg/btu, as reported by PEDCO (See PEDCO, *Risk Assessment of Waste Oil Burning*, p. D-7) as typical for residual fuel oil boilers with capacities less than 250×10⁶ btu/hr, PNA emissions from virgin oil

burning for those 6 test sites would have averaged about 96 µg/hr.

Given that it appears that the concentration of PNAs of primary concern are comparable in used oil and virgin fuel oil, and that total PNA emissions from burning used oil and virgin fuel oil are comparable, we have not set specification levels for PNAs.

(3) *Benzene, Toluene, and Naphthalene.* One commenter argued that EPA did not adequately consider the risk posed by emissions of benzene, toluene, and naphthalene. The PEDCO risk assessment concluded that ambient levels of toluene and naphthalene would be less than 1% of the Environmental Exposure Limit (EEL) considering emissions from point sources of various sizes, from point sources clustered very closely together, and multiple point sources located in high density urban areas.⁷² PEDCO also concluded that ambient levels of the carcinogen, benzene, would pose an increased risk to the most exposed individual of 2.7×10⁻⁶ (1:37,000,000).⁷³ It should be noted that PEDCO's risk assessment is considered conservative in some respects, including the assumption that boilers burning used oil will achieve a destruction efficiency of only 97% although test burn data indicate that even very small boilers when operated properly appear to achieve 99 to 99.99% destruction efficiency. Nonetheless, the commenter suggested that the Agency consider conducting the so-called "hot spot" exposure analysis for those compounds similar to the analysis conducted for lead.⁷⁴

The hot spot analysis considers what may be considered truly "worst case" situations where two sources are located close together, and the receptor (exposed person) is located directly downwind from the sources, very close to the sources (i.e., 25-50 meters from the source), and elevated to the height of the emission plume (i.e., as though the emission plume were blowing into the air intake of a building's ventilation system). We have used this scenario to project ambient levels of benzene, toluene, and naphthalene in those situations. Even under those extreme and very rare situations, and conservatively assuming 97% destruction efficiency, ambient levels of toluene and naphthalene still do not exceed 1% of the EEL for those compounds. Ambient levels of benzene do not exceed levels that would pose an increased risk of 1×10⁻⁶ (1: 100,000). If

the destruction efficiency of benzene were assumed more realistically to be 99% rather than 97%, the increased risk would be less than 4×10⁻⁶ (1:250,000). Given the remote likelihood that the modeled situations would occur, and that risks are still not very high even under these worst case conditions, we conclude that presence of these compounds does not pose a significant health risk when used oil is burned for energy recovery.⁷⁵

As a final note, although we do not have data on benzene, toluene, and naphthalene levels in virgin fuel oils, we would expect to find high levels of volatile benzene and toluene in distillate oils (e.g., No. 2) and high levels of naphthalene in residual oils (e.g., No. 6). Given that used oil and used oil blends are substituted for all grades of oil (i.e., No's 2-6), the levels of these compounds in used oil are likely to be comparable to levels in virgin oil.

(4) *ASTM Specifications.* A few commenters suggested that EPA include specification parameters such as viscosity and bottom sediment and water set by the American Society for Testing and Materials (ASTM) to ensure proper boiler operation. ASTM specifications vary according to fuel oil grade (e.g., No. 2 distillate oil though No. 6 residual oil). Commenters argued that the ASTM specifications were needed to ensure optimum boiler operation and, thus, optimum combustion of used oil which would minimize emissions of incompletely burned toxic compounds (e.g., PNAs as discussed above).

We understand the issue commenters are raising but do not believe it is, in fact, a frequent problem. We presume that burners purchase fuel, including used oil and blends of virgin oil and used oil, specified by the standard fuel oil grade that their boilers are designed to burn. Further, we presume that fuel oil, whether virgin or containing used oil, must meet the ASTM specifications for the designated grade or be in breach of contract. Thus, the marketplace already should ensure application of the ASTM specification. We will, however, reconsider this point if during implementation of today's rule enforcement officials determine that misrepresented used oil is frequently being sold and existing laws are inadequate to prevent abuses and we

⁶⁹ Although believe that the levels of toluene, benzene, and naphthalene do not present a hazard when used oil is burned (and thus specification levels are not needed), these toxicants may still present a significant hazard when used oil is stored and transported. We therefore, consider these hazards when we will soon propose to list used oil as a hazardous waste.

⁶⁹ See 50 FR 1695 (January 11, 1985).

⁷⁰ Recon Systems, Inc., and ETA Systems, Inc., *Used Oil Burned as Fuel*, 1980, p. 4-6; and GCA Corp., *Environmental Characterization of Waste Oil Combustion*, pp. 19, 120, 126, 132, 134, 144, and 150. Both of these reports were part of the Agency's record at proposal.

⁷¹ Tests are cited in previous note. One test at one site had 5 times the average PNA emissions at that site during unstable combustion conditions. (The contractor deliberately induced these conditions as part of the test program.) Results from that test are not included in calculating the 92 µg/hr. average. When the results from that test are included, the average PNA emissions increase to 106 µg/hr. See GCA Corp., p. 120.

⁷² PEDCO Environmental Inc., *Risk Assessment of Waste Oil Burning*, p. 5-2.

⁷³ Id., p. 5-6.

⁷⁴ Id., pp. 4-39 through 4-43.

determine that the practice can result in substantial increases in emissions of toxic compounds at levels that pose a significant risk to human health and the environment.

Another reason we are not addressing this potential problem in today's rule is that there does not appear to be a simple remedy. We cannot require that all used oil meet the ASTM specifications for a particular fuel oil grade because different boilers are designed to burn different grades. To address the problem, the responsible burner must simply now that the used oil (or virgin/used oil blend) he is purchasing meets the grade his boiler is designed to burn. This could be accomplished, perhaps, by requiring that the invoice or bill of sale indicate the grade of fuel, and if necessary, a statement that the oil meets the ASTM specifications for that grade. On the other hand, the burner who is trying to save on his fuel costs may try to burn lower grade (or ungraded) used oil provided that his increased maintenance costs do not off-set his fuel savings. He is not concerned about emissions of incompletely burned compounds. If this were the problem, a solution would be to require that the marketer determine the grade of his oil by ASTM specification and sell the used oil only to a burner with a boiler designed to burn that grade of oil. Similar requirements could be placed on burners (i.e., they could burn only that fuel oil grade the boiler is designed to burn). We believe that it is clear that the implementation and enforcement of provisions such as these would be a massive undertaking and would intrude substantially on the marketing and use of what is essentially a commercial product—used oil meeting the specification established in today's rule. Before seriously considering any such remedies, we would need to much better define the "problem".

(4) *Other Compounds.* A few commenters suggested that the following compounds also be included in the specification: nickel, beryllium, mercury, sulfur, nitrogen, and phosphorous. None of these compounds are included for the reasons discussed below.

Nickel is not included in the specification because the 90th percentile nickel level in used oil is lower than the level found in virgin residual fuel oil (40 ppm).⁷⁶ Although limited, data on

beryllium in virgin fuel oils indicate that beryllium levels average much less than 1 ppm, while analyses of 263 used oil samples indicate that the 90th percentile beryllium level in used oil is less than 0.3 ppm. (Ibid.) Similarly, limited data on mercury indicate that levels can range from 0.005 to 0.4 ppm in virgin fuel oils and are less than 0.1 ppm in used oils. (Ibid.) Clearly, beryllium and mercury are not found in used oils at levels of concern, and nickel emissions (and any health risk posed) or lower from burning used oil than virgin fuel oil.

Levels of sulfur and nitrogen are somewhat higher in virgin fuel oil than in used oil.⁷⁷ Thus, sulfur and nitrogen oxide emissions from burning used oils would not be higher. Although we do not have data on phosphorous levels in used oils and virgin fuel oils, phosphorous is neither a designated hazardous waste constituent on Appendix VIII of Part 261 nor does it interfere with boiler efficiency at the levels found in used oil.

3. *Specification Levels.* A number of commenters provided suggestions on specification levels for the metals for which EPA proposed a specification level and for flash point. The basis for the specification levels for these parameters is discussed below.

a. *Lead.* EPA proposed to select a specification level for lead from the range of 10–100 ppm, and specifically requested comments on an appropriate level. As discussed in the preamble to the proposal (see 50 FR 1697–1699 (January 11, 1985)), levels higher than 100 ppm could result in ambient lead levels exceeding the National Ambient Air Quality Standard (NAAQS) for lead in densely populated areas where boilers are clustered together and receptors may be close to the sources. Although 100 ppm appears to be protective with respect to the NAAQS, that level may not be protective because health effects data available since the lead NAAQS was established indicate that lead causes serious, but apparently noncancerous, health effects at any level of exposure (i.e., lead appears to be a "nonthreshold" pollutant). EPA is considering these new health effects data in its current efforts to determine whether the existing lead NAAQS is adequately protective. In addition,

because of the new health effects data, EPA believes that it is reasonable to reduce preventable sources of lead exposure. This policy led to the Agency's phasedown of lead in gasoline—by January 1, 1986, lead levels in "leaded" gasoline must be reduced to less than 10% of the levels previously allowed. For these reasons, we believe that a lead specification level should be considered that is lower than that which ensures the current NAAQS would not be exceeded. Thus, we proposed a level of 10 ppm at the low end of the range, which is the 95th percentile lead level in virgin fuel oil. A lower level was not proposed because used oil could be displaced with virgin oil with higher lead levels with no environmental benefit.

We also discussed in the proposal our concern that a specification level lower than 100 ppm could result in used oil currently burned as fuel being diverted to incineration, or perhaps being dumped, because the cost of blending used oil to meet a stringent specification could be prohibitive and because of the difficulty of finding new industrial (and utility) markets for oil that exceeds the specification. If lowering the lead specification level below 100 ppm diverted used oil currently burned as a fuel to incineration, the environmental benefits of that policy are questionable. It is not clear that metals emissions from incineration would be adequately controlled given that many hazardous waste incinerators use wet scrubbers that may not control lead emission efficiently.⁷⁸

We therefore indicated that in considering a specification level lower than 100 ppm, the benefits from reduced lead emissions from used oil burned as fuel must be balanced against the probability of (and adverse effects from) dumping and the diversion of used oil from use as a fuel to incineration.

We also specifically solicited comments on three other points (in addition to an appropriate specification level): (1) Whether factors other than those we considered need to be considered in determining the lead level that would ensure that the lead NAAQS is not exceeded; (2) whether a two-tiered specification, with a lower limit for more populous areas and a higher level for less urban locations, would be

⁷⁶ Sources: Franklin Associates Ltd., *Composition of Used Oil*, Appendix A; TRW Environmental Engineering Division, *Emissions Assessment of Conventional Stationary Combustion Systems: Volume III, External Combustion Sources for Electricity Generation*, November 1980, p. 134; US

EPA, *Listing Waste Oil As Hazardous Waste—Report to Congress*, January 1981 (SW-909); Yen, T.F., *The Role of Trace Metals in Petroleum*, Ann Arbor Science Publishers, Ann Arbor, Michigan, 1975, p. 107; Valkovic, Vlado, *Trace Elements in Petroleum*, Petroleum Publishing Company, 1980, p. 91; and American Petroleum Institute, *Task Force on Utilization of Waste Lubricating Oils*, October 1975, pp. 21–33.

⁷⁷ PEDCO Environmental Inc., *A Risk Assessment of Waste Oil Burning*, p. 3–18.

⁷⁸ The Agency intends to control metals emissions from boilers and industrial furnaces burning off-specification used oil and hazardous waste under the permit standards to be proposed in 1986. Once that rulemaking is initiated, the Agency intends to consider whether metals emissions from hazardous waste incinerators are adequately controlled.

appropriate; and (3) whether specification levels for arsenic, cadmium, and chromium would be necessary if a low level is promulgated because used oil that fails the specification levels for these other metals would also be expected to exceed a low lead specification level.

A large number of comments were received concerning the lead specification. They are discussed below.

(1) *Selecting a Level from the Proposed Range.* Most commenters argued that EPA's proposed range of 10 to 100 ppm is too stringent. Commenters stated that it would be difficult for used oil to pass a lead specification of less than 100 ppm, which, they asserted, would not only severely restrict used oil burning, but lead to illegal dumping. It was also suggested (by a State commenter with substantial experience in regulating used oil burning) that a lead specification of 100 ppm would be unlikely to cause an exceedance of the lead NAAQS.

Some commenters concurred with EPA's selected range, favoring the high end of the range. A specification of 100 ppm should be acceptable in all but the most densely populated areas, according to these commenters.

Selection of a relatively low level from the range, such as 10 or 20 ppm, was recommended by a few commenters. Some opposed allowing any lead at all in used oil, except in *de minimis* quantities.

(2) *Phase-in a Lower Specification Level as Gasoline Lead Levels are Lowered.* The majority of commenters recommended that EPA set an initial specification for lead at a relatively high level, and then phase in lower levels in incremental steps, tied to the EPA mandated lowering of lead concentration in gasoline which was promulgated on March 7, 1985 (see 50 FR 9386 and 9400). Commenters argued that it would be illogical and unfair for EPA to require lead to pass low specifications in used oil, since most of the lead in used oil originates from the lead in gasoline. Suggested initial levels ranged from the lead in gasoline. Suggested initial levels ranged from 500-1,000 ppm. Commenters also suggested that EPA build a time-lag into such a phasedown program, in which a certain minimum time after the effective date of the March 7, 1985 standards would be allowed to elapse before EPA would effect a lower level for used oil. Such a time-lag would accommodate the delay between the actual use of the lowered lead in gasoline being sold and burned in automobiles, and changing of the oil.

(3) *Risk-Based Specification Level.* Several commenters urged EPA to base

its specification for lead primarily, if not solely, on health effects data and risk from lead exposure, rather than on the current lead NAAQS or the 95th percentile concentration in virgin fuel oil. These commenters argued that regardless of typical contamination levels of lead in virgin fuel oil, EPA is not justified in allowing the burning of used oil with lead levels that may cause serious health effects. Raised blood lead levels in young children and the danger of lead poisoning to pregnant women were cited. Commenters emphasized that lead is bioaccumulative, meaning that repeated intake over time results in additive levels in the body.

(4) *Two-Tiered Approach.* Only a few commenters addressed the suggested two-tiered approach to regulating lead. Commenters stated that it would only cause cleaner, nonurban areas to become more polluted.

(5) *The Need to Regulate Arsenic, Cadmium, and Chromium if a Low Lead Specification Level is Selected.* Most commenters recommended that arsenic, cadmium, and chromium be regulated, even if a low lead level is promulgated. In general, commenters argued that it has not been shown that the level of these metals varies proportionately with lead. Used oil could conceivably have a low concentration of lead, but higher levels of one or more of these three metals. Restrictions for arsenic, cadmium, and chromium were suggested as a safeguard.

(6) *Response to Comments.* After evaluation of these comments, we have decided to promulgate a lead specification of 100 ppm, but to delay the effective date by six months. (The other specification parameters are effective 10 days after the date of publication.) As discussed at proposal, we believe that this level will ensure that nonindustrial boilers do not cause ambient levels to exceed the current NAAQS except in unique and truly extreme scenarios. See 50 FR at 1698 (January 11, 1985). Moreover, we are concerned that promulgation of a level lower than 100 ppm at this time could cause major disruptions to the used oil recycling industry resulting in diversion of oil or dumping with uncertain and potentially adverse environmental trade-offs. (Similar concerns were raised by the House Energy and Commerce Committee in their report on the RCRA amendments. See H.R. Rep. No. 98-198 at 66.)

The 100 ppm lead specification level promulgated today is intended as an interim measure. The Agency believes that this lead level may not be as protective as reasonably possible given the new health effects data mentioned

above. On the other hand, until we know more about the impacts of the other two rules affecting management of used oils (the soon-to-be proposed recycled oil management standards and the permit standards for boilers and industrial furnaces that will be proposed in 1988) on the used oil industry and, ultimately, on used oil flows, we are concerned that a lower level may cause impacts that could result in dumping or incineration of used oil with uncertain environmental trade-offs. Therefore, the Agency will evaluate the risks and costs of a lower lead level in conjunction with the third rule of the series—permit standards for boilers and industrial furnaces—scheduled to be proposed in 1988. Thus, the Agency's final position on the lead specification will be included in the permit standards rulemaking.^{7a}

In response to commenters' concerns that a lead specification level as low as 100 ppm could cause major disruptions of the industry and could result in dumping, the effective date of the lead specification is delayed six months. By that time, the Agency's gasoline lead phase-down standards will result in lowered lead levels in used crankcase oil so that a major disruption of the industry will be avoided, as discussed below.

On March 7, 1985, EPA promulgated standards restricting lead levels in gasoline (see 50 FR 9386 and 9400). The standards require that lead be reduced from the previous limit of 1.1 grams/gallon to 0.5 g/gal by July 1985, and to 0.1 g/gal by January 1986. This reduction of lead in gasoline should result in a

^{7a} We note that the Regulatory Impact Analysis (RIA) developed to support the recycled oil management standards soon to be proposed includes a preliminary analysis of the cost and benefits of lower lead levels. The analysis was initiated before the Agency decided to select 100 ppm as an interim lead specification and to make its final decision on the lead specification in the permit standards rulemaking. In addition, that RIA attempts to predict used oil flows, and thus regulatory impacts of the proposed rule, assuming all three rulemakings are in place. Thus, the RIA makes the best assumptions possible at the time on the cost of compliance with anticipated controls for boilers and industrial furnaces burning off-specification used oil fuel. Nonetheless, that preliminary analysis appears to indicate that lead specification levels lower than 100 ppm would be cost-effective. The Agency intends to review that analysis, up-date assumptions on permit standards and "flow" changes as necessary, and to include a comprehensive analysis of the cost and benefits of lower lead specification levels in the RIA for the permit standards rulemaking. In the interim, the RIA for the recycled oil management standards will be in the public docket for that rulemaking once it is proposed. Comments received on that portion of the RIA dealing with cost and benefits of lower lead specification levels will be considered in developing the Agency's position on this issue in the permit standards rulemaking.

concomitant reduction in lead levels in used oil. We have analyzed the potential impacts of imposing the 100 ppm specification either immediately along with the other specification parameters or in the Spring of 1988, roughly six months after promulgation.⁷⁹ Using a data base of 143 used oils sampled in 1983, we extrapolated resulting lead concentrations to the 1985-86 and 1986-87 heating seasons. Based on the July 1985 reduction of lead in leaded gasoline to 0.5 g/gal, we assumed an average lead concentration (for leaded and unleaded gasoline) of 0.2 g/gal for gasoline affecting used oil to be burned in the 1985-86 heating season. Similarly, based on the January 1986 reduction of lead in leaded gasoline to 0.1 g/gal, we assumed an average lead concentration (for leaded and unleaded gasoline) of 0.05 g/gal for gasoline affecting used oil that would be burned in the 1986-87 heating season. The average lead levels in gasoline were estimated assuming a ratio of 40% leaded to 60% unleaded gasoline consumption for the 1985-86 heating season, and a ratio of 37.5% leaded to 62.5% unleaded gasoline consumption for the 1986-87 heating season. (We also assumed that lead levels in all used oils would decrease because of the gasoline lead phasedown.)

This analysis demonstrates that delay of the implementation of the specification will provide time for the lead phasedown in gasoline and, consequently, in used oil. Significantly more used oil can pass the lead specification in May 1986 than today. The table below illustrates the drop in lead levels in used oil as the lead is reduced in gasoline.

TABLE 4.—PROJECTED CHANGES IN LEAD CONCENTRATION IN USED OIL AS LEAD IS REDUCED IN GASOLINE (PPM)

Percentile	1983	Late 1985	May 1986
35	114	69	39
40	177	115	44
50	490	217	67
75	856	337	85
90	940	367	104
95	1,417	546	248

Source: Franklin Associates, Ltd., *Effects of Delay in the Implementation of a Lead Specification on the Ability of Used Oil to Pass the Specification*, June 4, 1985.

As shown, only about 40% of the used oil can pass the lead specification of 100 ppm now. Delay for six months increases the total quantity passing the lead specification to about 80%.

⁷⁹Franklin Associates, Ltd., *Effects of a Delay in the Implementation of a Lead Specification on the Ability of Used Oil to Pass the Specification*, June 4, 1985.

Delaying the effective date of the lead specification has a corresponding effect on the amount of used oil that can pass the specification levels for all of the metals (i.e., lead, arsenic, cadmium, and chromium). As shown in the table below, we estimate that the amount of unblended used oil that can meet the metals specification levels more than doubles if the effective date of the lead specification is delayed six months to May 1986 (i.e., 20% vs. 46%).

TABLE 5.—EFFECTS OF DELAYING THE EFFECTIVE DATE OF THE LEAD SPECIFICATION ON THE PERCENT OF SAMPLES THAT PASS THE SPECIFICATIONS FOR ALL METALS

Percent of samples passing metals specifications assuming—	Nov. 1985 (percent)	May 1986 (percent)
Unblended used oil	20	46
75 pct Virgin/25 pct used oil	59	69
90 pct Virgin/10 pct used oil	91	91

Source: Franklin Associates, Ltd., *Effects of a Delay in the Implementation of a Lead Specification on the Ability of Used Oil to Pass the Specification*, June 4, 1985.

Although the effect of delaying the lead specification is much less significant when used oil is blended with virgin oil (e.g., 59% of used oil blended 75%/25% with virgin oil (75% virgin oil) could meet the metals specification in November 1985 while 69% could pass in May 1986), the Agency is uncertain whether substantial quantities of used oil will be blended with high percentages of virgin oil in the future. We believe that "virgin oil" distributors historically have done much of the blending at the higher ratios (e.g., 90% virgin and 10% used oil) in order to sell the mixture to the nonindustrial market as virgin oil. It is not clear, however, whether these distributors will continue to handle used oil given that they would have to comply with the notification (and other) requirement(s) of today's rules, which would make their used oil management activities public knowledge. Although blending used oil with high percentages of virgin oil to meet today's specification may be economical in the future in some cases, especially by persons currently considered primarily used oil processors, we are concerned that it may take some time for these heretofore (primarily) processors to increase their blending capacity and to find markets for used oil blended with high percentages of virgin oil. (Such "processors" would essentially become fuel oil distributors as well.) Thus, substantial quantities of used oil may not be blended with high percentages of virgin oil in the near term (if ever). Consequently, delaying the effective date of the lead specification is expected to substantially increase the

quantity of used oil that can meet the metals specification levels.

In summary, we believe that a six-month delay in implementing the lead specification is more responsible than making it effective immediately, and may, in fact, result in greater environmental benefit than immediate implementation.

With regard to other lead specification issues, we have decided against development of a two-tiered lead specification level for urban versus rural areas in this rulemaking. Commenters did not support the approach, it would be difficult to develop, support, and implement, and it would encourage burning of dirty fuels in areas with clean air.

Specification levels for arsenic, cadmium, and chromium are also retained. As stated in the proposal, we are concerned that once lead levels in used oil begin to drop, oil will increasingly fail the specification because of one of these other metals. Without the lead specification, burning of these oils would not be controlled.

b. Arsenic, Cadmium, and Chromium. In the preamble to the proposal, EPA stated that widespread, unrestricted burning of used oil in boilers can result in a substantial increase in ambient levels of the metals arsenic, cadmium, and chromium since 30-75% of the metals in the fuel can be emitted. Because these metals are carcinogenic, and thus, have no known threshold or safe level of exposure, these increased ambient concentrations would cause an increased risk of cancer to exposed individuals. Specification levels were based on levels of these metals found in dirty virgin fuel oil (i.e., 95th percentile metals levels) because we argued that: (1) Higher levels could result in substantial risk (i.e., 10⁻⁶) given that large numbers of persons in urban areas are exposed to emissions from nonindustrial boilers; and (2) lower levels could result in dirty virgin fuel oil displacing used oil without environmental benefit. (See 50 FR at 1697 (January 11, 1986).)

Several comments specifically questioned EPA's rationale for setting specification levels based on the 95th percentile level of those contaminants in virgin fuel oil. A few commenters stated that because these metals can cause serious health problems, specification levels should be based directly on risk to health rather than on concentration in virgin oil. Other commenters (including a major environmental group), however, supported our decision to use the 95th percentile of virgin fuel oil as a reference point. A few respondents

argued that the specification levels selected on the basis of the 95th percentile in virgin oil were too stringent, and that EPA was being overly conservative in assuming that there are no safe levels of exposure for these metals. Workplace threshold limit values (TLVs) and safe drinking water standards were cited as more reasonable for use as specification levels.

These arguments are unpersuasive. For the reasons discussed in the preamble to the proposed rule and summarized above, we continue to believe that limiting levels of these metals to 95th percentile levels in virgin oil is appropriate.

Several commenters also disagreed with the assumptions used to assess risk from chromium (i.e., that all chromium is emitted in its carcinogenic, hexavalent state and, thus, can cause increased cancer risk to exposed individuals). These commenters protested EPA's assumption that chromium is emitted in the hexavalent form following combustion. Comments ranged from assertions that EPA had no data or information to make such an assumption to theoretical arguments that when combusted, trivalent chromium would not be converted to hexavalent chromium. In general, these commenters suggested that EPA defer specifying a level for chromium until the Agency conducts studies to definitively determine what happens to chromium when burned in boilers.

We agree that only the hexavalent form of chromium has been proven to be carcinogenic, although it is a very potent carcinogen. The data are inadequate to classify the trivalent chromium compounds as to their carcinogenicity.⁸⁰ However, we believe that assuming all chromium compounds emitted from burning used oil in boilers are hexavalent chromium is a conservative, but reasonable assumption. *Ibid.* Although it is likely that a mixture of the two forms is emitted, information is not adequate to specify the form or the relative quantities of each. *Ibid.* EPA has initiated an extensive study to better understand the amount of hexavalent chromium and total chromium being emitted from major sources including coal and oil fired boilers and municipal incinerators. In addition, EPA has formally called for information on issues pertinent to the risk posed by airborne chromium emissions including: (1) Are there adverse health effects associated

with exposure to trivalent chromium?; (2) does trivalent chromium transform in the atmosphere or in the environment to hexavalent chromium and vice versa?; and (3) what is the relative quantity of hexavalent and trivalent chromium emitted from chromium sources? *Ibid.*

The Agency, however, cannot postpone regulatory action, given especially that used oil contains significantly higher chromium levels than virgin fuel oil. Until more information is available on these issues, the Agency will therefore continue to assume that chromium emissions are in the hexavalent form.⁸¹

c. *Flash Point.* Used crankcase oils can be contaminated with highly ignitable constituents of gasoline such as benzene, toluene, and xylene from engine blow-by. Used oils can also be mixed after use with gasoline or other highly ignitable nonhalogenated solvents such as xylene. Even low levels of contamination with these low flash point compounds can reduce the flash point of used oils, normally greater than 200°F, to levels lower than 100°F. Nearly 7% of 650 used oil samples had a flash point below 100°F.⁸²

EPA proposed a specification of 100°F because it is the American Society for Testing and Materials' (ASTM) minimum flash point specification level for virgin fuel oils. EPA reasoned that burners are not accustomed to handling such fuels and so used oils with a lower flash point may present significant hazards during handling and storage. Thus, such low flash point oils need to be controlled. EPA specifically requested comment on whether such low flash point used oils should be regulated as off-specification used oil fuel as proposed, or as hazardous waste fuel.

One commenter argued that low flash point used oil should be subject to regulation as hazardous waste fuel to provide adequate controls during storage and transportation. While sharing the commenter's concerns, we have decided that low flash point oil should be regulated as off-specification used oil, not hazardous waste fuel. This final rule is therefore the first step in the Agency's efforts to regulate the blending and burning of hazardous waste and used oil fuels. Storage and transportation controls for used oil, including off-specification used oil burned for energy recovery, are soon to be proposed and controls (i.e., permit

standards) on the actual burning of hazardous waste and off-specification used oil fuels are scheduled to be proposed in 1986. Thus, we believe it may be confusing to the regulated community and may preempt regulatory options in these future rulemakings to subject in piecemeal fashion used oil off-specification only for flash point to regulation as hazardous waste fuel. As a matter of fact, the recycled oil management standards propose that used oil, including off-specification used oil fuel, be subject to the same substantive storage and transportation controls for hazardous waste in many situations.

As a final note on this point, low flash point used oil cannot be presumed to be hazardous waste under the mixture rule (i.e., because the oil is mixed with ignitable hazardous waste). As explained in section IV.B.3 above, the low flash point may be attributable to low flash point constituents of gasoline (e.g., benzene, toluene, or xylene) added to crankcase oil during use.

Several commenters argued that a specification level of 100°F is inconsistent with the definition of ignitable hazardous waste that uses a flash point of 140°F or below to define ignitability. See 40 CFR 261.21. We explained at proposal the basis for the difference. See 50 FR 1699, n. 58. The 140°F flash point limit defining an ignitable waste was based primarily on the hazard posed during land disposal. Given that virgin fuel oils can have a flash point as low as 100°F, we believe that used oils with flash points of 100°F to 140°F pose no greater hazard than virgin fuels (provided they meet the other specification limits).

D. Comments on Allowing Blending to Meet the Specification

The Agency received a large number of comments for and against allowing blending of used oil to meet the used oil fuel specification. Operators of used oil refineries and some State environmental officials argued against allowing blending primarily because: (1) Blending does not reduce the total quantity of metals emitted from used oil burning in an urban area—blending limits the emissions from individual sources but allows (in theory) a larger number of sources to burn blended oil so that the same quantity of used oil is burned annually in a given area (and the same quantity of metals are emitted); and (2) allowing blending creates an economic disincentive to remove metals from used oil by rerefining to produce lube oil (and a low-metal content fuel

⁸⁰ See EPA's public notice of "Intent to List Chromium or Hexavalent Chromium as a Hazardous Air Pollutant (50 FR 24317-19 (June 10, 1985)).

⁸¹ See also: U.S. EPA, *The Air Toxics Problem in the United States: An Analysis of Cancer Risks For Selected Pollutants*, May 1985.

⁸² Franklin Associates Ltd., *Composition of Used Oil*, Appendix A.

by-product)²² because blending for marketing as fuel is often more profitable than substantial processing.

On the other hand, processors and blenders argued that blending should be allowed because it results in a used oil fuel product that, in general, poses no greater health risk than virgin fuel oils. They argued further that grossly contaminated used oil cannot be economically blended to meet the specification and will go to rerefiners for production of lube oil or to industrial boilers and industrial furnaces for use as a fuel.²³

Processors and blenders also argued that without blending, alternate markets may not be available to handle the used oil diverted from burning potentially leading to adverse environmental effects (see section IV.C.3 above). Industrial boilers and industrial furnaces may not be able or willing to burn off-specification used oil given the Agency's plans to regulate such burning (beginning with the notification and other administrative controls provided by today's rule). Further, rerefiners cannot be presumed to be an unlimited outlet for used oil. Although many rerefineries are operating below capacity today, and could perhaps double their capacity within a few years to handle the increased supply if blending were prohibited, profitability of rerefining depends on more than an available supply of used oil. Marketing factors such as demand for recycled lube products and price fluctuations in virgin lube products (resulting from fluctuations in crude oil prices or other factors) are also critical. These marketing factors may have played as large a role historically in limiting the viability of used oil rerefining as has the problem of inadequate supply of used oil feedstock due to competition from the largely unregulated used oil fuel market. Thus, processors and blenders believe that without blending, neither the industrial fuel market nor the rerefining market would be able to handle the used oil that would exceed the specification.

The Agency agrees with points made by both sides. The rule does potentially encourage blending, blending creates a disincentive to remove metals by rerefining, and blending *per se* does not

reduce (in theory) mass emissions of metals in an urban area. However, we believe that some highly contaminated used oils cannot be economically blended and will go to rerefining or to industrial boilers or industrial furnaces that control metal emissions (either currently, or eventually under rules the Agency will propose in 1986). In addition, as discussed above, it is not clear that rerefineries and the industrial fuel market would have the capacity to handle the used oil exceeding the specification if blending were not allowed. In that case, used oil diverted would be incinerated or dumped, with uncertain environmental trade-offs (i.e., compared to allowing blending). Although blending does not reduce (in theory) mass-emissions in an urban area, blending of used oil to meet the specification reduces the risk to the most exposed individuals. Finally, and most significantly, we believe that blending results in a product that can pose no greater hazard than dirty virgin fuel oil.

For these reasons, today's final rule allows blending. It should be noted, however, that this rule is only the first of three rules that will significantly affect the used oil recycling industry. As we develop these rules, we will examine "flow changes" caused by the regulations (e.g., increase in rerefining, decrease in road oiling, etc.). At that point, we will be better able to determine whether our rules only serve to promote dilution versus removal of metals (e.g., by rerefining or by burning in devices with adequate emissions control equipment). We cannot, at this time, conduct such an assessment, and for the reasons cited above, can find no basis to prohibit blending.

E. Consideration of a Total Ban on Burning Used Oil in Nonindustrial Boilers

At proposal, EPA requested comments on whether all used oil burning in nonindustrial boilers should be banned. See 50 FR 1693-94. EPA was primarily concerned that used oil could be mixed with hazardous waste and illegally marketed as used oil fuel meeting the specification.

Several commenters argued for banning all used oil burning in nonindustrial boilers. These commenters were concerned that used oil would be illegally adulterated with hazardous waste once the used oil is outside the regulatory system (i.e., once a collector, processor, or blender documents the used oil meets the specification). These commenters reasoned that illegal adulteration is inevitable given the

current practice, particularly in the Northeast, of mixing hazardous spent solvents with used oil for marketing as virgin fuel oil (usually after blending with virgin oil),²⁴ given the nature of the used oil and waste management industry (again, particularly in the Northeast),²⁵ and given the profitability of illegal adulteration. It should be noted that the issue these commenters raise here is whether the proposed regulatory scheme (i.e., allowing burning of unregulated used oil meeting the specification in nonindustrial boilers) can be adequately enforced, not whether the specification itself, in conjunction with the rebuttable presumption of mixing halogenated wastes, is protective *per se*.

Other commenters opposed an outright ban on burning used oil in nonindustrial boilers. These commenters were concerned that a ban could lead to illegal dumping or incineration of used oil with adverse or uncertain environmental trade-offs. For reasons discussed above, rerefinery capacity and the industrial fuel market may be inadequate to handle used oil diverted from nonindustrial boilers under a ban.

Today's rule therefore allows burning of used oil meeting the specification in nonindustrial boilers (or any other boiler or industrial furnace) for a number of reasons. We continue to believe that the specification, in conjunction with the rebuttable presumption of mixing, will detect and control used oil illegally adulterated with hazardous waste. See 50 FR 1693, n. 28. In addition, these rules have been developed with an understanding of the current practices of the industry and should result in cost-effective enforcement. Specifically, the controls are focused primarily on the several hundred marketers of these fuels rather than the potentially thousands of burners. These marketers must determine whether they are handling hazardous waste fuel, off-specification used oil, or unregulated used oil that meets the specification, and must manage the fuel accordingly. The rebuttable presumption of mixing hazardous chlorinated waste with used oil, and the use of oil fuel specification will enable both marketers and

²² National Enforcement Investigations Center, U.S. EPA, *Summary of Waste Oil Recycling Facility Investigations*, October 1983.

²³ *Proceedings of the New York State Assembly Standing Committee on Environmental Conservation Public Hearing on the Unlawful Disposal of Solid and Hazardous Wastes*: September 24-26, 1984 at the New York Chamber of Commerce and Industry, New York (Volumes I, II, III B, and III C), and September 19-21, 1984 at the Orange County Government Center, Goshen, New York (Volume I, II, and III).

²² Once used oil is processed to remove metals, it is considered more profitable to further process the oil to produce lube oil rather than to market it as fuel oil.

²³ Potential hazards posed by burning of off-specification used oil in these devices should be temporary. The Agency intends to propose permit standards for burning off-specification used oil fuel (and hazardous waste fuel) that will require that the owners and operators of all boilers and industrial furnaces burning these fuels limit metal emissions.

enforcement officials to make a clear, objective determination of the type of fuel in question, and thus, the applicable controls. Further, the tracking system for fuel shipments, used oil analysis requirements, and recordkeeping requirements are intended to foster efficient and effective enforcement.

It should be noted that, in response to commenters' concerns about enforceability and tracking of used oil that meets the specification, today's rule expands the recordkeeping requirements for used oil meeting the specification. In addition to records of analysis required by the proposed rule, the person who first claims used oil fuel meets the specification must also keep a record of pertinent information regarding the shipment of the used oil including: name and address of the receiving facility, date of shipment, and quantity shipped. See § 268.43(b)(6)(i). This will enable enforcement officials to track movements one step beyond the initial marketer. We considered applying recordkeeping requirements to all subsequent marketers (e.g., distributors) until the used oil fuel is ultimately burned. We decided not to, however, given that the used oil fuel poses no greater risk than virgin fuel oil and, once it enters the commercial fuel oil market, should not be regulated differently than virgin fuel oil. (We note, however, that subsequent adulteration with hazardous waste or off-specification used oil makes specification used oil subject to regulation as either hazardous waste fuel or off-specification used oil fuel.)

Moreover, in response to commenters' concerns discussed above, we reasoned that hazardous waste could be illegally mixed with virgin fuel oil, as well as with used oil fuel, and sold to nonindustrial boilers. (Comments of the State of New Jersey illustrate that this type of illegal mixing is presently occurring.) Thus, the risk of adulterating legitimate fuels with hazardous waste is not unique to used oil. In light of these considerations, there is no compelling reason to further regulate specification used oil fuel by additional recordkeeping or by a ban on burning in nonindustrial boilers.

F. Analytical Testing to Demonstrate Compliance with Specification Levels and the Rebuttable Presumption

At proposal, EPA indicated that general guidance on sampling and analysis is provided in EPA, *Test Methods for Evaluating Solid Waste*, July 1982, SW-846 (U.S. GPO). See 50 FR 1705. EPA indicated further that the Agency is revising digestion procedures recommended by SW-846 for organic liquids prior to determination of metals

concentrations. We were aware that the digestion procedures specified by Methods 3030 and 3050 do not result in good recovery of metals in some oily matrices. Finally, EPA indicated at proposal that it was verifying the accuracy and precision of two field tests for total chlorine that are quick and inexpensive—an adaptation of the Beilstein flame colorimetric test, and a field test kit using chemical colorimetric procedures.

A number of commenters requested that EPA specify acceptable analytical procedures for halogens, metals, and flash point, and to prescribe acceptable testing frequency. Several commenters also indicated that the Beilstein chlorine test is neither quantitative nor reliable (because of interferences with contaminants) and, thus, not a useful test.

The following sections specify recommended analytical procedures and discuss the Agency's position on sampling procedures.

1. Chlorine. EPA's test methods manual, SW-846, does not include an analytical technique for determining total halogens (reported as total chlorine) in oil. Until a total halogen technique for oils is formally added to SW-846 as an approved test, EPA recommends the broadly accepted ASTM D808-81 method (i.e., oxygen bomb followed by titrimetric halogen determination).

The Agency is also evaluating automated halogen determinators and believes that they may prove to be acceptable in many situations. In addition, the Agency is continuing to evaluate the flame and chemical colorimetric field tests and believes that the chemical colorimetric test in particular may prove to be acceptable in many situations.

The Agency anticipates it will formally propose in early 1986 to add the ASTM D808-81 chlorine determination method to SW-846 as an approved test. The Agency will also decide at that time whether information is adequate to propose to add either field test or the automated determinators to SW-846 as approved tests.

2. Metals. EPA is aware that digestion procedures specified by SW-846 for sedimentaceous oils prior to metals determinations (i.e., methods 3030 and 3050) do not result in complete digestion and release of metals in some oily matrices. EPA is evaluating revised digestion procedures and anticipates proposing revisions to the procedures in early 1986. In the interim, EPA recommends using digestion method

3050 followed by the determination method appropriate for specific metals (see Table 6). For non-sedimentaceous oils, however, the solvent dissolution procedures of method 3040 may be used in lieu of digestion method 3050.

TABLE 6.—RECOMMENDED ANALYTICAL PROCEDURES

Parameter	Method		Source
Total halogens	D808-81		ASTM.
Flash point	1010		SW-846 and Proposed Test Methods for Evaluating Solid Waste.
	Preparation	Deter-	
Arsenic	3040*/3050	mination	SW-846 and Proposed Test Methods for Evaluating Solid Waste.
		7060	Do.
Cadmium	3040*/3050	6010	Do.
		7131	
Chromium	3040*/3050	6010	Do.
		7191	
Lead	3040*/3050	6010	Do.
		7420	
		7421	

Notes:
*Recommended only for non-sedimentaceous oils.
SW-46 (Test Methods for Evaluating Solid Waste) is available from the U.S. Government Printing Office. Proposed Test Methods for Evaluating Solid Waste is available from NTIS under order No. PB8-103-026.

3. Flash Point. Procedures for flash point determinations are provided by Method 1010 in SW-846. Method 1010 uses the Pensky-Martens closed cup tester.

4. Frequency of Testing. Many commenters asked EPA to prescribe a minimum testing frequency that would eliminate the liability associated with the question of how much testing is enough to demonstrate that the halogen level for the rebuttable presumption of mixing or the specification is not exceeded. Commenters were also concerned that EPA consider the cost and practicability of testing when establishing a minimum testing frequency. A few commenters requested that generators, collectors, and processors be allowed to certify that the used oil meets the specification and has not been mixed with hazardous waste in lieu of testing.

We address the certification question first and then the issue of specifying frequency of testing.

a. Certification in Lieu of Testing. Testing is not specifically required to demonstrate conformance with the rebuttable presumption of mixing hazardous halogenated wastes. Thus, a certification passed from party to party stating that hazardous waste has not been added to the used oil appears to be a prudent business approach. Nonetheless, the certifications would

not lessen the burden to rebut the presumption of mixing if in fact the used oil were found, for example by EPA enforcement officials, to contain more than 1000 ppm of total halogens. Given the profitability of mixing hazardous waste with used oil (i.e., charging generators for waste disposal and selling the waste, after blending with oil, as a fuel), the nature of the industry (see note 85), and past practices of illegal mixing of hazardous waste with used oil (see note 84), the Agency will not necessarily accept any claim or certification from any party. Nor would such an approach be consistent with other long-established hazardous waste rules. See, e.g., 40 CFR 262.11 (generators must determine if their wastes are hazardous and are in violation of regulations if their determination is erroneous). We think that the rebuttable presumption promulgated today provides an objective means of distinguishing between used oil and hazardous waste whenever a question exists and we plan to use the presumption routinely during inspections of used oil facilities.

When a person first claims used oil fuel meets the specification, today's rule requires that he obtain an analysis or other information to support the claim. Thus, testing is not specifically required to demonstrate compliance with the specification. (Ordinarily, however, we expect that testing will be used to demonstrate compliance.) The "other information" could include personal, special knowledge of the source and composition of the used oil⁸⁸ or a certification from a generator to the processor claiming the oil meets the specification. As explained above, however, if a person who claims used oil fuel meets the specification based on "other information" and the determination is found to be erroneous (i.e., if testing reveals that the oil fails the specification), he is in violation of the regulations.

It should be noted further that if a marketer claims used oil fuel meets the specification when in fact it does not when analyzed by EPA or State enforcement officials at any point until ultimately burned, it is not a defense that the recipient (or subsequent recipients) reasonably believed the oil

⁸⁸ Repeated testing may not be warranted in every situation. For example, a generator who burns on-site his used oil that testing shows meets the specification may elect to eliminate or reduce the frequency of testing if, for example, the processes that generate the oil do not change. In this case, the generator is using "other information" in lieu of testing. Nonetheless, if his determination is erroneous, he is in violation of the regulations, as explained in the text.

met the specification. (Again, this approach is identical to that used for hazardous waste.)

EPA and State enforcement officials also have the authority under RCRA section 3007 to enter the premises of a person believed to be handling used oil fuel (including trucks in the process of transport) and to collect samples of fuel oil, irrespective of whether the person reasonably believes his used oil fuel meets the specification, for the purposes of determining compliance with the marketing requirements of today's rule. Thus, a person may not deny access because he believes the used oil fuel he manages meets the specification and is no longer subject to regulation.

b. *Frequency of Testing.* The frequency of testing necessary to ensure conformance with today's rules will vary from situation to situation depending on factors including: (1) Type of, and changes in, sources of used oil; (2) historical results of tests; (3) tank filling and drawdown practices; and (4) tank capacities. Although today's rule does not necessarily require that each incoming shipment of used oil be analyzed for conformance with the presumption of mixing, or that each outgoing shipment of specification used oil fuel be analyzed for conformance with the specification (or that testing be conducted at all), the marketer must be satisfied that each such shipment so conforms. In short, testing must be conducted as often as necessary, and the burden is necessarily on the marketer to determine how often is often enough. (This is comparable to a generator's responsibility to determine whether the wastes he generates are hazardous. See 40 CFR 262.22.) Therefore, we believe it is not practicable to prescribe a testing frequency that is appropriate for all situations.

IV. Regulation of Combustion Residuals

Some commenters asked whether residuals (e.g., fly ash, bottom ash) from burning hazardous waste or used oil for energy recovery are subject to regulation as hazardous waste. Unless specifically excluded from regulation as hazardous waste as discussed below, such residuals are hazardous waste if: (1) The residuals (from burning either hazardous waste or used oil) exhibit a characteristic of hazardous waste; or (2) the residuals result from burning listed hazardous waste and the residual has not been "delisted" under petitioning procedures of § 260.20 (see § 261.3(c)(2)).

These are not new requirements (and are not being revised in any manner by today's rules). These residuals have

been subject to regulation as hazardous waste since the RCRA standards were promulgated in 1980. Although the actual burning for energy recovery is a type of recycling currently exempt from RCRA regulation, the exemption does not extend to solid waste generated by recycling.

RCRA Section 3001 temporarily excludes specific combustion residuals from regulation as hazardous waste. The exclusion is codified at § 261.4(b)(4) and applies to residuals from combustion of primarily fossil fuels. The Agency has temporarily interpreted this exclusion to mean that the following solid wastes are not hazardous wastes: "fly ash, bottom ash, boiler slag and flue gas emission control wastes resulting from (1) the combustion solely of coal, oil, or natural gas, (2) the combustion of any mixture of these fossil fuels, or (3) the combustion of any mixture of coal and other fuels, including hazardous waste or used oil fuels, up to a 50 percent mixture of such other fuels." Thus, until the boiler and industrial furnace rules address this issue in 1986, residuals from burning the fossil fuels oil or gas with any quantity of hazardous waste fuel or used oil fuel are not excluded from regulation under § 261.4(b)(4). Residuals from burning coal and up to 50% hazardous waste fuel, however, are excluded.⁸⁷ *ee. 85*

⁸⁷ Taken from correspondence from Gary N. Dietrich, Associate Deputy Assistant Administrator for Solid Waste, EPA to Paul Emler, Jr. Chairman, Utility Solid Waste Activities Group, dated January 13, 1981. Mixtures of coal and up to 50% of other fuels are excluded from regulation (at this time) because any contaminants from the other fuels (e.g., hazardous waste) would be largely diluted by the coal combustion residuals. This may not be the case with oil or gas combustion given the low volumes of bottom and fly ash generally produced from combustion of these fuels.

⁸⁸ These residuals may in fact contain only minimal levels of toxic organic compounds in situations where boilers (and industrial furnaces) are operated to achieve maximum combustion efficiency. The Agency is considering during development of the permit standards for boilers and industrial furnaces modifying the derived-from rule to exempt noncharacteristic residuals in cases where we are certain that residuals do not contain significant levels of toxic organics.

⁸⁹ We note that the exclusions (from regulation as hazardous waste) for certain large volume wastes produced by facilities under the "mining waste" exclusion of § 261.4(b)(7) may apply to certain industrial furnaces burning hazardous waste or used oil. Any such exclusions apply (pending development of the boiler and industrial furnace permit standards) irrespective of whether the devices burn hazardous waste or used oil for energy recovery given the likely effect of dilution of any contaminants attributable to the hazardous waste or used oil. Similarly, the exclusion for cement kiln dust provided by § 261.4(b)(8) applies irrespective of whether the kiln burns hazardous waste or used oil for energy recovery.

EPA also is providing that residues from burning hazardous waste fuels that are exempt from regulation under § 261.6(a)(3)(v)-(ix) (i.e. hazardous waste fuels derived from petroleum industry wastes, petroleum coke derived from certain petroleum industry hazardous waste, and coke and coal tar derived from steel industry decanter tank tar sludge) are not covered by the derived from rule. With respect to burning petroleum industry fuels derived from petroleum industry wastes, these fuels may be no different in composition than virgin fuels (at least when low volumes of wastes are introduced into the refining process). See sections III.C.1 and 2 above. Under these circumstances, wastes from burning these fuels also would be no different than from burning virgin fuels, so the derived-from rule should not apply.

EPA is exempting from the derived-from rule wastes from burning petroleum coke to further Congressional intent that the coke is subject to regulation only if it exhibits a characteristic of hazardous waste. RCRA section 3004(q)(2)(A). Thus, consistent with § 261.3 (c)(2) and (d)(1), wastes from burning the coke should only be considered hazardous when they exhibit a hazardous waste characteristic. With respect to the iron and steel coke and coal tar, EPA has found that these waste-derived fuels are not significantly different than the virgin fuels for which they substitute (and that the organic toxicants in these fuels are likely destroyed by burning as well). Thus, the derived-from rule should not apply to the wastes from burning, which also would be comparable to the wastes from burning virgin coke and coal tar.

V. Consideration of Special Requirements for De Minimis Quantities Burned On Site

Several commenters suggested that EPA establish a *de minimis* quantity of off-specification used oil fuel and hazardous waste fuel that could be burned without regulation. Although commenters suggested various quantity levels to qualify for an exemption, the majority recommended a limit of 0.5-1% of the total fuel consumption of the boiler or industrial furnace. Some commenters also urged EPA to institute a permit-by-rule program for facilities burning small quantities of hazardous waste fuel or off-specification used oil fuel that are generated on-site.

Section 3004(q)(2)(B) of RCRA explicitly allows EPA to exempt facilities that burn *de minimis* quantities of waste as fuel, provided that the wastes are generated on-site, are burned for energy recovery, and are burned in a

device with sufficient destruction and removal efficiency not to present a significant risk to human health and the environment. EPA is presently examining the issue of *de minimis* burning in developing the Phase II permit standards for owners and operators of boilers and industrial furnaces. Although we may propose to exempt *de minimis* quantities from the Phase II permit standards, the basic administrative controls promulgated today (e.g., notification) would probably still apply to on-site burning.⁵⁰ Therefore, today's rule does not provide a *de minimis* quantity exemption since, for industrial burners, the rule only addresses these administrative controls.

A few commenters argued that hazardous waste fuel and off-specification used oil fuel burned on-site should not be subject to regulation *irrespective of quantity*. These commenters argued that storage of hazardous waste fuels is adequately controlled by State and local governments and that burning of either hazardous waste fuels or off-specification used oil fuel is adequately controlled by State or local air pollution permits. We find these arguments without merit. The hazards posed by handling and burning hazardous waste fuels and off-specification used oil fuels are substantial and essentially the same irrespective of whether the fuels were generated at that site. EPA has made this finding for years with respect to other hazardous wastes, and no arguments have been presented distinguishing hazardous waste fuels from all other hazardous wastes managed on site. The commenters' argument also was rejected in the legislative history to the HSWA. See S. Rep. 98-284, 98th Cong. 2nd Sess. at 38. Moreover, the storage of hazardous waste fuels and the burning of either hazardous waste fuel or off-specification used oil fuels can pose much greater risk to human health and the environment than storage and burning of virgin fossil fuels. State and local controls on storage and burning of virgin fuels are not intended to provide the level of control of releases of toxic constituents from storage facilities or from boilers or industrial furnaces that EPA's regulations will provide, starting with today's final rule.

⁵⁰ It should be noted that today's rule does not regulate storage of used oil fuel. Although storage of hazardous waste fuel is regulated by today's rule, special (i.e., reduced) standards are already provided for on-site storage in tanks and containers of hazardous waste by generators (see § 262.34). Further, small quantity generators are already exempt from storage standards under § 261.5.

PART THREE: COMBUSTION DEVICES THAT ARE REGULATED

I. Overview

In this section, we identify boilers and industrial furnaces subject to regulation and distinguish between nonindustrial boilers and industrial or utility boilers. We also explain the basis for regulating nonindustrial boilers immediately in advance of controls for industrial boilers and industrial furnaces. In addition, we discuss how these nonindustrial boilers can continue burning hazardous waste when they operate under permit standards for hazardous waste incinerators. Finally, we discuss controls for used oil space heaters and EPA's intent to provide additional controls for these devices in the rulemaking proposing permit standards for burning in boilers and industrial furnaces scheduled for 1986.

II. Regulation of Boilers

A. Basis for Regulating Boilers by Boiler Use

Today's rule prohibits the burning of hazardous waste and off-specification used oil fuel in nonindustrial boilers (e.g., located in apartment and office buildings, schools, hospitals) and, for the time being, continues to allow burning of such fuels without substantive controls in industrial and utility boilers (and industrial furnaces). As EPA stated at proposal, the rule singles out nonindustrial boilers because burning hazardous waste fuels and off-specification used oil fuels in these boilers can pose the most significant and immediate health risks. See 50 FR 1687-1688 and 1701, n. 63. Nonindustrial boilers are typically very small and may not achieve complete combustion of toxic organics (e.g., 99.99% destruction) because of inadequate controls to maintain optimum combustion conditions when firing fuels the boiler is not designed to burn. Further, virtually no nonindustrial boilers are equipped with emissions control equipment that would control (at least to some extent) metals emissions, while many industrial furnaces and some industrial boilers are so equipped. The risks from emissions of incompletely burned toxic organic compounds and toxic metals from nonindustrial boilers is compounded because these boilers are typically located in urban areas where sources are frequently clustered closely together. Thus, emission plumes from numerous sources can overlap and increase ambient concentrations of toxic compounds. Further, individuals can be exposed to high ambient levels of emitted toxicants because they can be

located close to the sources and exposed to the even higher toxicant levels above-ground (e.g., if the individual is exposed to above-ground air through a window in a multi-story apartment or office building).

EPA also stated at proposal that there may be many situations where industrial (and utility) boilers and industrial furnaces can burn hazardous waste fuel or off-specification used oil fuel without posing significant risks. See 50 FR 1688. For example, large boilers or industrial furnaces may be operated by trained operators and equipped with combustion controls sophisticated enough to maintain peak combustion efficiency when burning fuels the unit is not designed to burn.

Further, many industrial furnaces and some boilers are equipped with particulate control equipment that may adequately control emissions from metal-bearing waste fuels. The Agency has recently completed a testing program to determine under what operating conditions boilers and industrial furnaces can burn waste fuels without posing significant health risks. As a result of that effort, EPA plans to propose technical, permit standards for burning hazardous waste fuels and off-specification used oil fuels in boilers and industrial furnaces in 1986 taking into account when and how these wastes can be burned safely in these devices.

One commenter questioned whether burning hazardous waste fuels in a nonindustrial boiler is prohibited if the boiler can comply with the permit standards for hazardous waste incinerators. Other commenters suggested that criteria other than boiler use (e.g., boiler size) should be used to identify those boilers subject to the prohibition. These issues are discussed below.

1. Conditional Exemption for Nonindustrial Boilers Burning Hazardous Waste Fuel. EPA explained at proposal that there may be particular nonindustrial boilers that may burn hazardous waste fuels (we know of one location) effectively due to the unit's operating conditions, type of hazardous waste fuel, etc. To allow such burning to continue, EPA said that the owner or operator must comply with the hazardous waste incinerator standards of Subpart O of 40 CFR Parts 264 or 265. See 50 FR 1688. The owner or operator must also comply with the requirements for burners in today's rule (e.g., storage standards). See § 268.35. We are making a conforming amendment to Subpart O to make clear that this possibility exists.

Owners and operators of nonindustrial boilers currently burning

hazardous waste fuel are eligible for the interim status incinerator standards of Part 265 because they first become subject to those regulations today. Those interim status standards will reduce the hazards posed by these operations by prohibiting burning during start-up and shut-down and by applying the general facility standards (e.g., closure, financial requirements) for hazardous waste management facilities.

The Regional Administrator has the discretion to permit these facilities under Part 264, Subpart O (and applicable storage provisions) by calling in their Part B permit applications. We do not expect, however, that nonindustrial boilers that continue to burn hazardous waste fuel under the interim status standards of Subpart O of Part 265 will be formally permitted under Part 264, except in exceptional circumstances. Rather, we expect that any such nonindustrial boilers would be ultimately permitted under the permit standards for boilers and industrial furnaces to be proposed in early 1986. Those permit standards will likely control emissions of toxic organics, toxic metals, and hydrogen chloride. We believe the standards would be protective when applied to any device—e.g., industrial or nonindustrial boilers. Moreover, those boilers and industrial furnace standards will be equally or more protective than the incinerator standards under Subpart O of Part 264 (e.g., the Agency may propose direct control of metals emissions from boilers and industrial furnaces while particulate controls are used for incinerators to indirectly control metals).

2. Consideration of Other Criteria for Identifying Boilers Subject to the Prohibitions. At proposal, EPA explained why the prohibitions on burning hazardous waste fuel and off-specification used oil fuel would apply to boilers based on boiler use—the prohibitions would apply to nonindustrial boilers. Burning these fuels in nonindustrial boilers can pose substantial and immediate risks for the reasons discussed above. EPA explained further that it plans to propose permit standards in 1986 for industrial and utility boilers and industrial furnaces. Nonetheless, EPA specifically requested comments on whether small industrial boilers should also be prohibited from burning hazardous waste and off-specification used oil fuels, given that very small boilers, whether industrial or nonindustrial, may typically be equipped with less sophisticated combustion controls and may be less rigorously operated and maintained to achieve peak combustion efficiency.

Many commenters said that large nonindustrial boilers can burn hazardous waste fuel as efficiently as large industrial boilers and should not be prohibited from doing so. These commenters apparently did not understand that EPA said as much in the preamble to the proposal and said that these boilers may continue burning hazardous waste fuel if they comply with the standards for hazardous waste incinerators, until we promulgate permit standards for boilers as discussed above. We believe that it is reasonable to require such nonindustrial boilers to comply with the incinerator standards now and postpone regulation of industrial boilers until we promulgate permit standards for boilers because nonindustrial boilers as a class are likely to pose greater risks because they are more likely to be located within densely populated areas. (Although industrial boilers are frequently located in urban areas, nonindustrial boilers are almost always so located.)

Many commenters argued for and against prohibiting burning small industrial boilers using the issues EPA discussed in the preamble to the proposal. See 50 FR at 1700-1701. Today's rule does not prohibit burning in small industrial boilers. Although it can be argued that nonindustrial and industrial boilers of the same size are likely to burn hazardous waste fuel with similar destruction efficiency, we believe that nonindustrial boilers as a class pose a greater hazard for the reasons given above. Thus, as discussed above and at 50 FR 1687-1688, it is reasonable to require nonindustrial boilers to comply with the incinerator standards now and postpone regulation of industrial boilers until we promulgate permit standards for boilers.

Several commenters recommended that EPA prescribe design and operating conditions, or performance standards, or consider boiler location rather than prohibiting burning in particular devices. The permit standards for boilers that we plan to propose in 1986, in fact, would use performance standards, or alternative operating conditions, to permit burning of hazardous waste fuel in any boiler. However, until those standards are promulgated, nonindustrial boilers will be subject to the conditional prohibition for the reasons given above.

Boiler location has been considered in supporting immediate regulation of nonindustrial boilers—they are typically located within highly populated areas. Persons in less densely populated areas would have a lower exposure; thus, we could use site-specific risk assessments

to support alternative, reduced controls. Given the complexity of quantitative risk assessments (i.e., assessments that are used to support particular controls for particular facilities) and the number of boilers that burn off-specification used oil fuel and hazardous waste fuel, a regulatory program based on site-specific risk assessment would be difficult to implement with current and foreseeable resources. Thus, we have not included a variance procedure based on risk assessment in today's rule.

B. Definition of Industrial Boiler

Today's rule, like the proposal, uses the terms industrial boilers, utility boiler, and industrial furnace to identify combustion devices that are not nonindustrial boilers subject to the prohibition. We believe it is less confusing to define the devices that are not subject to the prohibition than to attempt to define and identify the various types of nonindustrial boilers (e.g., residential, commercial, institutional).

EPA defined the term "industrial boiler" at proposal as any boiler that produces electric power, steam or heated or cooled air, or other gases or fluids for use in a manufacturing process. Further, EPA has defined "boiler" as an enclosed device using controlled flame combustion and having specific characteristics including: (1) The combustion chamber and primary energy recovery section must be of integral design (e.g., waste heat recovery boilers attached to incinerators are not boilers); (2) thermal energy recovery efficiency must be at least 80% and (3) at least 75% of recovered energy must be "exported" (i.e., not used for internal uses like preheating of combustion air or fuel, or driving combustion air fans or feedwater pumps). See 50 FR at 661 (Jan. 4, 1985).

Some commenters requested that EPA include in the definition of industrial boiler those boilers which are physically located on the premises of a manufacturing facility but which recover energy solely for space heating rather than manufacturing. Commenters argued that these boilers are often the same size and are operated no differently than other boilers at the facility producing energy used for actual manufacturing. Further, such boilers are often located in industrially zoned areas, thus reducing the probability of large numbers of persons being close to the source and being exposed to above-ground level concentration as would be typical of many nonindustrial boilers. Thus, commenters argued that since the burning characteristics and risks are similar for all boilers located at

manufacturing facilities, the boilers should be regulated in the same manner. EPA agrees and has amended the regulations accordingly. Section 266.31(b)(2)(i) has been modified from proposal to define an industrial boiler as any boiler located on the site of a manufacturing facility.

Although we believe this definition of industrial boiler will enable the vast majority of boiler owners and operators to clearly categorize their boilers, there may be situations where it is not so clear. If an owner or operator is not sure whether his boiler meets today's definition of industrial boiler, he should contact the Regional Administrator for a determination.

C. Definition of Utility Boiler

EPA defined utility boilers at proposal as boilers used to produce electric power, steam, heat or cooled air, or other gases or fluids for sale. Owners and operators of utility boilers are burners regulated in the same way as owners and operators of industrial boilers.

We identified utility boilers separately from industrial boilers only as an indirect means of identifying nonindustrial boilers subject to the prohibitions (i.e., it is less confusing to identify boilers not subject to the prohibitions than to define nonindustrial boilers subject to the prohibitions). Clearly, utility boilers are not nonindustrial boilers and have never been identified as such.

A few commenters requested that EPA distinguish between industrial and utility boilers on the basis that utility boilers achieve good combustion efficiency and have emission control equipment thereby leading to safe and efficient burning of off-specification used oil fuel. The commenters, however, did not specify what practical regulatory distinctions should be made.

Any special design, operation, or emissions control features that utility boilers may have that will reduce risk posed by burning used oil will be considered during development of the permit standards for burning hazardous waste fuel and off-specification used oil fuel in boilers and industrial furnaces scheduled to be proposed in 1986. EPA can see no reason why utility boilers should not be subject to the rules promulgated today.

D. Nonindustrial Boilers

In the proposal, EPA explained that nonindustrial boilers include those located at: (1) Single or multifamily residences; (2) commercial establishments such as hotels, office building, laundries, or service stations;

and (3) institutional establishments such as colleges, hospitals, and prisons. To avoid the problem of providing a clear, encompassing, and unambiguous definition of nonindustrial boiler, we have identified and defined those devices not subject to today's prohibition: industrial boilers, utility boilers, and industrial furnaces.

E. Marine and Diesel Engines

Used oil may be burned in other devices such as diesel or marine engines. These devices may not meet the definition of a boiler and are not listed as industrial furnaces under § 260.10. See 50 FR at 661 (January 4, 1985). Used crankcase oil from diesel engines is frequently blended with virgin diesel fuel and burned in diesel engines (e.g., tractor-trailer engines). In addition, used oil is sometimes used as fuel for ship engines. Although such burning is for the purpose of energy recovery (i.e., the used oil provides substantial, useful heat energy, and in fact replaces virgin fuels), the burning of used oil in these devices was not considered during development of the proposed rule. Given that it is not clear that diesel and marine engines meet the definition of a boiler, that EPA has not taken comment on whether such devices meet the definition, and that today's rules apply to used oil that is burned in a boiler (or industrial furnace) for energy recovery, today's rules do not apply to marketers and burners of such used oil. Thus, the used oil fuel specification and the invoice and certification recordkeeping system do not apply to such used oil.⁹¹

With respect to notification requirements, we have determined that owners and operators of these devices need not notify the Agency (this type of exemption if expressly allowed under Section 3010(a)). We do not think it serves any practical purpose for owners and operators of marine engines (many of which are under foreign ownership) or other diesel engines such as the thousands of diesel trucks⁹² to notify of

⁹¹ It should be noted that if a person markets off-specification used oil fuel exempt from today's rules because it is burned in marine diesel engines, that person has the burden of proof to demonstrate that in fact, such exempt used oil will be burned in those devices. See 50 FR 1692 (January 11, 1985) and 50 FR 642 (January 4, 1985). Ordinarily, invoices that track a shipment of off-specification used oil to the end user (i.e., marine or diesel engine owner or operator) will be required to carry this burden.

⁹² Further, even if such used oil burned in diesel trucks were subject to today's used oil fuel specification, the oil would not likely exceed the specification as burned. As will be discussed in some detail in the used oil listing/management standards rulemaking that will soon be proposed, used diesel crankcase oil is typically mixed with

their used oil burning activities at this time, and EPA does not need such information to assess what rules may ultimately be appropriate.

Marketers of used oil that is burned in marine or diesel engines, on the other hand, must comply with the notification requirement. EPA needs to know who these marketers are to be able to investigate whether these marketers are mixing hazardous waste with used oil. Hazardous waste, including used oil mixed with hazardous waste, cannot be burned in marine or diesel engines unless the devices are permitted as hazardous waste incinerators. (Devices that burn hazardous waste by means of controlled flame combustion and that are neither boilers nor industrial furnaces are considered to be incinerators for regulatory purposes. See §260.10 in 50 FR 661 (January 4, 1985).) Thus, used oil marketed for use as fuel in marine and diesel engines is (like other used oils) subject to the presumption of mixing hazardous waste established by today's rule.)

It should also be noted that although the used oil fuel specification and the invoice and certification recordkeeping system established by today's rule do not apply to used oil marketed for use as fuel in marine or diesel engines, such used oil would be subject to the transportation and storage controls for recycled oil that will soon be proposed. When promulgated, those controls will supersede today's rules for used oil fuels and will apply to all recycled oils.

III. Regulation of Industrial Furnaces

EPA has defined "industrial furnace" as those devices specifically listed by the Administrator as enclosed devices that are integral components of a manufacturing process and that use a controlled flame to accomplish recovery of material's or energy. See 50 FR 661 (January 4, 1985). The Agency has also identified criteria for listing other devices as industrial furnaces. To date, the list of industrial furnaces includes cement kilns, lime kilns, aggregate kilns (including asphalt kilns), blast furnaces, and smelting, melting and refining furnaces.

Owners and operators of these industrial furnaces are subject to today's rules for burners (see §266.35) when they burn hazardous waste or off-specification used oil for energy recovery or for both energy recovery

and another recycling purpose (see section II of this preamble).

IV. Regulation of Used Oil Space Heaters

As proposed, today's rule provides a conditioned exemption from the prohibition on burning off-specification used oil fuel in used oil space heaters. EPA stated at proposal (see 50 FR at 3700) that it is deferring regulation of these devices until it better understands the risk they pose and evaluates regulatory options to address any such hazards. EPA stated further that it would address regulation of these devices in future rulemakings. In the interim, these space heaters may continue to burn off specification used oil fuel provided that they vent the heater to the outdoors and burn only used oil they generate or receive from do-it-yourself oil changes.⁸⁸

As EPA explained at proposal, used oil space heaters are very small heaters frequently used in service stations and auto repair shops. The units typically burn 1 to 2 gallons of used crankcase oil per hour. Ninety percent (90%) of the heaters are the vaporization type where the oil is vaporized from a pan at the base of the heater while metals and heavy, low volatility compounds remain in the pan (and are cleaned out periodically). The other heaters are the atomization type where the oil is sprayed into the combustion chamber. Vaporization units appear to have low metals emissions rates—5 to 15% of the metals are emitted. This is comparable to (or lower than) the metals emission rate from larger boilers (industrial or nonindustrial). Atomization units, however, appear to have relatively high metals emissions rates—75% to 95%. EPA concluded that vaporization units probably do not pose a health risk while it is not clear whether atomization units pose significant risks given the small size of the units.

Most commenters supported the exemption and believed that no further regulation is necessary. Supporters argued that vaporization units comprise 90% of the units in operation and emit only low levels of metals. Supporters of the exemption were silent with respect to atomization units.

Opponents to the exemption used various arguments and proposed various regulatory alternatives. Many commenters were concerned that the risk from metals and toxic organic

emissions could be significant given that these space heaters are frequently operated in residential areas. They argued that it would be premature to grant an exemption until further risk assessment is conducted.⁸⁹ Some opponents suggested that atomization heaters be banned entirely and others suggested application of emissions standards to both atomization and vaporization units. In addition, some commenters suggested that an exemption would actually cause a proliferation of space heaters since they could be viewed as a cheap, easy method of providing heat as well as getting rid of used oil. Thus, EPA should consider "grandfathering" existing space heaters rather than granting a blanket exemption. Commenters were also concerned that space heaters could provide a loophole for disposal of hazardous waste generated at service stations and auto repair shops by mixing with the used oil to be burned.

EPA continues to believe that atomization space heaters may pose significant risk in unique situations (e.g., where multiple atomization units burning used oil with high levels of metals are clustered together, and persons are located close to the sources) while the much more prevalent vaporization units probably do not pose significant risks. Thus, we do not believe there is a compelling reason to take the extreme measure at this time of virtually banning the use of these devices which would result if they were not exempted from the prohibition on burning off-specification used oil fuel. We intend to include regulations for these devices, as deemed necessary, when we propose permit standards for all boilers and industrial furnaces in 1986. Thus, we can ensure that controls on burning in these devices are consistent with controls, particularly for metals emissions, on other boilers and industrial furnaces. In addition, by that time, we will have proposed the comprehensive management standards for recycled oil which would regulate generators and collectors, as well as the marketers and burners (except for permit standards for burning) regulated by today's rule. At that time, we can consider the regulatory impact on generators, as

⁸⁸ Harvard University submitted information about research they have been conducting regarding the effect of emissions from used oil on mammalian lung tissue. Various dosages were applied in a short-term inhalation study utilizing hamsters. Harvard reported results showing lung damage from metals and other toxic constituents from both vaporization and atomization heaters, and recommended further study to develop rational risk estimates.

⁸⁹ 95% virgin diesel fuel before use as a diesel fuel. The blended fuel is likely to meet the used oil fuel specification. Thus, owners and operators of such engines would be burning a used oil that meets the specification and that would be exempt from regulation.

⁹⁰ The exemption is also conditioned on the unit having a capacity of less than 0.5 million Btu/hr. This encompasses all used oil space heaters in use today and prevents operators of larger boilers from claiming they operate used oil space heaters.

required by RCRA section 3014(c), of regulating used oil space heaters in conjunction with the entire regulatory scheme for recycled oil.

As a final note, a few commenters suggested that proposed § 266.41(b)(4)(i) be revised to conform with explicit preamble language that allows the owners or operators of exempted space heaters to burn used oil received from "do-it-yourself" oil changers as well as used oil they generate. We agree and have modified that provision in the final rule at § 266.41(b)(2)(iii).

PART FOUR: ADMINISTRATIVE AND STORAGE STANDARDS

I. Administrative Standards

A. Overview

Hazardous waste fuels and off-specification used oil fuels are subject to certain administrative requirements, including a one-time notification to identify waste-as-fuel activities and to obtain a U.S. EPA Identification Number. Even if an individual has previously notified the Agency, and already has a U.S. EPA Identification Number he must renotify to identify his waste-as-fuel activities (although his Identification Number remains the same). Other administrative requirements include compliance with a manifest system (for hazardous waste fuels), or an invoice system (for off-specification used oil fuel) and recordkeeping. In addition, persons receiving shipments of hazardous waste fuel or off-specification used oil fuel must certify to the shipper that they have notified EPA of their waste-as-fuel activities, and that they may legally burn the fuel. These controls make it possible to administer and enforce the prohibitions against burning in nonindustrial boilers, and provide for proper tracking of the materials.

The administrative requirements apply to both marketers and burners of hazardous waste fuel and off-specification used oil fuel. Generators of hazardous waste or used oil who send their waste directly to an individual who burns those wastes are considered to be marketers and are subject to these controls. Conversely, generators who send their hazardous waste or used oil to an individual who does not burn the waste for energy recovery are not considered to be marketers, even if the waste is burned later for energy recovery by another person. (Such generators of hazardous waste, however, are subject to 40 CFR Part 262 as ordinary hazardous waste generators.)

Hazardous waste fuel transportation is subject to the full set of Part 263

requirements. This rule regulates for the first time transporters of hazardous waste fuel that is neither a listed waste nor a sludge. These hazardous wastes are currently exempt from regulation under § 268.36 (see 50 FR 667 (January 4, 1985)), a provision that is superseded by today's new Part 266 standards. Used oil transportation is exempt from the administrative requirements in order to avoid piecemeal regulation of used oil transporters.⁶⁶ If used oil fuel transporters are regulated while other used oil transporters are not, transporters could avoid complying by claiming that the used oil is intended for other purposes. EPA will address regulation of transporters in its recycled oil management standards scheduled to be proposed later this year.

The following table summarizes the controls required under today's rule:

TABLE 7.—CONTROLS FOR WASTE FUELS

	Hazardous waste fuel	Off-specification used oil fuel
Generator ¹ _____	Part 262 ² _____	Exempt.
Marketers ³ _____	N,R,N,P,M,C,R,S _____	N,R,N,P,I,C,R _____
Transporters _____	Part 263 ⁴ _____	Exempt.
Burners _____	N,R,N,P,M,C,R,S _____	N,R,N,P,I,C,R _____

Notes:

¹ Hazardous waste and used oil generators are not regulated as marketers unless they market directly to a burner.

² Hazardous waste generators who send their waste to a hazardous waste fuel marketer are subject to Part 262 standards as ordinary generators. See § 266.32(a). Generators who market their hazardous waste fuel to burners are subject to the Part 262 generator standards as well as today's hazardous waste fuel marketer requirements. See § 266.32(b).

³ Hazardous waste fuel transporters are subject to regulation as ordinary hazardous waste transporters. Thus, they are not required to notify or re-notify for their waste-as-fuel activities. However, they must notify for their hazardous waste transportation activities if they have not notified already.

Key:

N—Notification and identification number.

RN—Renotify for waste-as-fuel activities.

P—Prohibitions on marketing to, or burning in, nonindustrial boilers.

M,I—Compliance with manifest (M) or invoice (I).

C—Provide or receive certification of compliance with standards for burning.

R—Recordkeeping.

S—Storage Standards.

B. Notification Requirements

1. *Purpose of Notification.* Notification is necessary because EPA must be able to identify those persons who engage in waste-as-fuel activities in order to ensure that waste fuels are managed properly and not routed to nonindustrial markets. The special waste-as-fuel notification is mandated under RCRA

⁶⁶ Many used oil transporters (collectors) pick up used oil from several small generators and aggregate the oil at satellite storage facilities prior to shipment in larger tankers to used oil processors or refiners. These transporters are not considered marketers unless: (1) They ship used oil directly to a person who burns the oil for energy recovery; or (2) they process used oil to produce a fuel at the storage facility. Any blending of used oils resulting from accumulation in the transporter's storage tanks is incidental to the primary function of accumulation and is not considered to be blending or processing in this rule.

section 3010(a), as amended. A U.S. EPA Identification Number will be assigned to those facilities subject to RCRA regulation for the first time.

2. *Who Must Notify.* The following persons must notify either EPA or an authorized state⁶⁷ to identify their waste-as-fuel activities: (1) Marketers of hazardous waste fuel or off-specification used oil fuel (e.g., third-party processors, blenders, and distributors, and generators marketing directly to burners); (2) burners of hazardous waste fuel or off-specification used oil fuel, except generators who burn their oil in space heaters under § 266.41(b)(2)(iii); and (3) marketers (or burners) who first claim used oil fuel meets the specification and so is exempt from subsequent regulation. If any of these individuals has previously notified the Agency of any hazardous waste management activities and obtained a U.S. EPA Identification Number, they must renotify, and may use the revised notification form to do so (see discussion below).

EPA explained at proposal that the following persons need not comply with the waste-as-fuel notification requirement: (1) Hazardous waste generators who neither burn their wastes for energy recovery nor market their wastes for energy recovery directly to a burner, because they may not know the end use of their waste; (2) hazardous waste fuel transporters, for the same reason given for generators;⁶⁷ and (3)

⁶⁶ EPA is allowing notifiers to notify either EPA or States authorized to operate the hazardous waste program even though amended section 3010(a) requires that both EPA and authorized States be notified. EPA is deviating from the statutory provision for practical reasons. EPA and authorized States have developed a system for handling section 3010 notifications that heretofore could be submitted to either EPA or the State. Under that system, the State automatically forwards notifications it receives to EPA for processing and assignment of an identification number. If waste-as-fuel notifications were submitted to both EPA and the authorized State, a facility could inadvertently be assigned two identification numbers. Thus, simultaneous notifications to both EPA and States not only will not further environmental protection, but could be counter-productive. In addition, the requirement that persons notify both EPA and States was to provide that regulations implementing the HSWA take effect immediately even in authorized States, a concern later addressed directly by amended section 3006(g). By amending section 3006(g), Congress eliminated the need for dual notification.

⁶⁷ Hazardous waste generators and transporters are nonetheless subject to the notification (and other requirements) of Parts 262 and 263 as ordinary generators and transporters. Thus, the significance of the discussion in the text is that generators and transporters need not renotify.

used oil generators and transporters (unless they also market directly to a burner).²²

Notification also does not apply to owners and operators of boilers or furnaces, including but not limited to nonindustrial boilers, who burn used oil fuel that meets the specification.

3. Use of the Hazardous Waste Notification Form. Persons required to file notifications (or renotify) with EPA or authorized States because of their waste-as-fuel activities may use EPA Form 8700-12 (revised 11/85): "Notification of Hazardous Waste Activity." See the appendix to today's regulation. This form is a revision of the existing notification form which was modified to include waste-as-fuel notification requirements. The Agency made minor changes to the proposed form to make it clear that persons who first claim that the used oil fuel they market meets the specification are subject to the requirements (including notification, used oil analysis, and recordkeeping) provided under § 268.43. See preamble discussion in section IV.E of Part Two.

The revised notification form provides EPA with the number and location of facilities involved in processing, blending, marketing, and distributing of waste fuels, and the number, type, and location of burners. These data will be used to develop a general profile of the waste fuel industry and assist in future regulatory development.

Several commenters suggested revisions to the proposed notification form. One commenter argued that language requiring the signer of the form to be personally familiar with and responsible for the veracity of the responses places an undue burden on managers of facilities who may not be aware of all operations of their facility on a day-to-day basis. This requirement has been in place since the notification form was first used for the RCRA hazardous waste program in 1980. It is not a special requirement pertaining to notification of waste-as-fuel activities. EPA sees no compelling reasons to modify its longstanding position that one person must ultimately take responsibility for a facility's operation and compliance with federal regulations.

²² As noted at proposal, however (see 50 FR 1702, n. 68), used oil generators and transporters who send used oil to marketers that burn some used oil are not considered to be marketing used oil fuel directly to a burner for purposes of today's rule. Thus, these generators and transporters are not regulated (and not required to notify) as marketers. This is because the burning at the marketers' facility is considered incidental to the primary function of the marketers' facility: processing and marketing of used oil fuel.

Another commenter suggested that the reference to "listed infectious waste" on the proposed form be dropped, since no such category exists. This was an oversight on EPA's part, and has been deleted from the final form.

4. Notification Procedures and Implementation. As EPA indicated at proposal, it estimates that there are, at most, 20,000-30,000 persons that may be required to file notifications. While EPA does not intend to carry out a mass mailing to potentially affected parties, the Agency will widely announce the notification requirements of these rules through the press and trade journals.

Persons required to notify under today's rule should consider this Federal Register notice their final notice to submit a notification. To obtain a notification form, you should contact your authorized State hazardous waste agency or your U.S. EPA Regional Office. Each requester will receive a complete notification package, including a form and accompanying instructions, to assist him in filing his notification.

EPA will return to each notifier an acknowledgment of receipt of the notification, and will issue a U.S. EPA Identification Number if one was not previously assigned. This acknowledgement in no way constitutes an endorsement by EPA of the adequacy of the notification or of the notifier's business practices; rather, it serves as a confirmation that EPA received the notification.

5. Legal Significance of Notification. EPA is promulgating the notification requirement for hazardous waste fuels and off-specification used oil fuels under the authority of Section 3010(a) of RCRA, as amended. The notification is a prerequisite for RCRA interim status (see RCRA section 3005(e)(2)) for owners and operators of hazardous waste fuel storage facilities. See H.R. Rep. No. 98-198 at 41, likewise specifying that notification of management of hazardous waste fuels serves as a prerequisite for interim status.)

C. Transportation Controls

As proposed, EPA is adopting today a system to track movement of hazardous waste fuel and off-specification used oil fuel from the initial marketers (e.g., processors, blenders, distributors, or generators who market to burners through intermediaries (e.g., transporters, distributors) to the industrial users who burn the fuel for energy recovery.²³ This tracking system

²³ The system is already in place for certain hazardous waste fuels—namely listed wastes and sludges when sent directly from the generator to a

allows regulatory officials to track a hazardous waste fuel or off-specification used oil fuel from point of processing, blending, or other treatment to point of burning, thus making the prohibition on burning in nonindustrial boilers enforceable. Equally important, the tracking document (either a manifest or an invoice) alerts persons who handle these materials that they are receiving a hazardous waste or off-specification used oil.

Consequently, EPA today is finalizing its proposal that all shipments of hazardous waste fuel be accompanied by a manifest. Hazardous waste fuel marketers are subject to the transportation (and pre-transport) requirements of 40 CFR Part 262 and transporters are subject to the requirements of 40 CFR Part 263.

We are requiring a slightly different system for off-specification used oil fuel, whereby marketers (e.g., processors, blenders, distributors, and generators who market to burners) offering off-specification used oil fuel for sale must prepare and send an invoice to the fuel buyer, but do not have to have the invoice physically accompany each shipment. (Transporters thus will not have to comply with any invoice requirement.) This distinction (i.e., invoice in lieu of a manifest) is needed to avoid piecemeal regulation of used oil transporters, as explained at proposal. See 50 FR 1704 n. 76.

The invoice must include the shipment initiator's name, address and identification number, the receiving facility's name, address, and identification number and the quantity of off-specification used oil fuel shipped. All of this information is currently required in the standard EPA hazardous waste manifest.

As EPA stated at proposal, in a situation where an off-specification used oil fuel goes from a processor or blender to an intermediate distributor, the distributor must reinstitute a new invoice to accompany any fuel it sells that is produced from or otherwise contains the used oil (unless the used oil fuel now meets the specification). This requirement is consistent with those found in other parts of the RCRA regulations whereby intermediate storage facilities must reinstitute a manifest. See, e.g., 40 CFR 264.71(c) and 262.10(f).

burner. See Subpart D of Part 266 in 50 FR 667 (January 4, 1985). Today's rule expands the system to all hazardous waste fuels managed by all marketers and burners, except those specifically exempted under § 261.6(a)(3) as revised in today's rule.

As described in the proposal, the Hazardous and Solid Waste Amendments of 1984 amended RCRA to require producers, distributors, and marketers of hazardous waste fuels to include a warning label on the invoice or bill of sale for the fuel. The requirement became effective in February 1985, but is superseded by today's rule. The Agency believes that the requirement for an invoice or a manifest achieves the same purposes as a warning label—to alert the user or distributor that he is receiving hazardous waste fuel. The manifest also notifies the transporter that he is handling hazardous waste because the manifest must accompany the shipment. No comments disagreed with the Agency's conclusion that an invoice or manifest is an adequate replacement for the statutory warning label.

Several comments were received on the proposed invoice/manifest requirement. Commenters suggested that transfer of waste fuels from site to site within the same company should be exempt from the invoice and manifesting requirements. Commenters pointed out that such transfers are routine; thus, they reasoned that invoices or manifests are unnecessary. At the very least, commenters requested that EPA consider a simplified manifest or invoice for such transactions.

EPA believes that the manifest requirement for hazardous waste fuels serves essentially the same purpose as the current manifest requirement for other hazardous waste—to alert transporters (and emergency response officials) as well as facility operators (e.g., burners) of the fire and explosion hazards posed by the shipment and to establish a paper trail that will enable enforcement officials to implement and enforce the regulations. Given similar purposes and that off-site, but intracompany, shipments of other hazardous waste are subject to full manifest requirements, EPA sees no compelling reason to modify manifest requirements specifically for hazardous waste fuel. See also 50 FR 28724-28725 (July 15, 1985) where the Agency adopted the same position with regard to the warning label required by RCRA section 3004(r)(1).

D. Notice and Certification Requirements

To enforce the prohibition on burning hazardous waste fuel and off-specification used oil fuel in nonindustrial boilers, the prohibition applies not only to the boiler owner and operator, but also to the waste fuel marketer. Thus, a marketer (a processor, dealer, distributor, or a generator

marketing directly to a burner) may not sell hazardous waste fuels or off-specification used oil fuel to a person who burns it in a nonindustrial boiler but must ensure that they market these fuels only to persons in (and, thus, aware of) the regulatory system: persons who have notified EPA of their waste-as-fuel activities. In addition, marketers are responsible for determining whether their waste fuel is subject to regulation (i.e., whether their product fuel contains hazardous waste or is off-specification used oil).

As EPA explained at proposal, to comply with these requirements, marketers need to know whether the person receiving a shipment of hazardous waste fuel or off-specification used oil fuel has notified EPA of his waste-as-fuel activities and whether he intends to burn the fuel only in a utility boiler or industrial boiler or industrial furnace. Thus, the rules include a provision requiring that a marketer of hazardous waste fuel or off-specification used oil fuel receive a certification from the fuel purchaser stating that the purchaser has notified EPA of his waste-as-fuel activities and will burn the fuel only in unrestricted boilers or furnaces. This certification is a one-time notice and is required before sending the initial shipment. Similarly, the purchaser is required to send the certification before receiving the first shipment from a marketer. This will ensure that the recipient is aware of the regulations applicable to waste fuels and of his responsibilities as a burner (or intermediary). Hazardous waste and used oil generators (and transporters receiving waste from generators) who market their waste to a person who is not a burner are not subject to this (or any other) requirement for marketers and a recipient of the generator's hazardous waste or used oil is not required to provide the generator with a certification notice. (Hazardous waste generators and their transporters are, however, subject to regulation as ordinary hazardous waste generators and transporters under 40 CFR Parts 262 and 263 respectively.)

E. Used Oil Analysis Requirements for Marketers

Marketers who first claim used oil meets the specification and is essentially exempt from further regulation¹⁰⁰ must document by

¹⁰⁰ As discussed in the text in Part Two, section IV.E, such marketers must keep records of the initial shipment of specification used oil. Also, as discussed in section IV.F, EPA and State enforcement officials have the authority to enter the premises of a person believed to be handling used oil fuel and to collect samples of fuel oil.

analyses or other information that the oil in fact meets the specification. Although the proposal required testing for documentation, the final rule allows the use of other information to show that the oil meets the specification. See previous discussion in Part Two, section IV.F. This is consistent with a generator's requirements under 40 CFR 262.11(c) to use testing or other information to determine whether his solid waste is hazardous waste. Ordinarily, however, we expect that testing will be used to demonstrate compliance. If a person's determination that used oil meets the specification is found to be erroneous, he is in violation of the regulations regardless of intent.

Persons required to obtain analyses (or other information) to demonstrate that their used oil fuel meets the specification include processors and blenders (and burners) who treat used oil known to be off-specification to produce specification used oil fuel and persons who market or burn as specification used oil fuel used oil received directly from generators or collectors. (Used oil received directly from generators or from collectors who receive oil from generators is presumed to be off-specification unless demonstrated otherwise.) EPA explained at proposal that such analyses and recordkeeping are required to enable the Agency to enforce the prohibitions on those persons who first claim that used oil fuel meets the specification.

Persons who obtain analyses of used oil to demonstrate compliance with the specification must ensure that representative samples are obtained and that appropriate analytical procedures are used. Sampling and analysis of used oil is discussed above in section IV.F.

F. Recordkeeping Requirements

The recordkeeping requirements are limited requirements designed primarily to keep track of the movement of hazardous waste fuels and off-specification used fuels. The substantive prohibitions as well as the various administrative requirements would not be enforceable without these recordkeeping requirements. As proposed, marketers and burners must keep a copy of the manifest or invoice (for used oil) that accompanies or that applies to each fuel shipment. In addition, marketers and burners are

irrespective of whether the person reasonably believes his used oil fuel meets the specification, for the purposes of determining compliance with today's rule.

required to retain copies of certification notices that they initiate or receive.

EPA also proposed that marketers of used oil fuel who first claim the oil meets the specification are required to obtain analyses of their used oil fuel product to document that it meets the specification. Copies of the analyses must be retained for three years. As discussed above, today's final rule allows the use of other information to document that used oil meets the specification. Such other information must also be retained for three years.

In response to commenters' concerns about the enforceability of the proposed rule, the final rule includes additional recordkeeping requirements for persons who first claim used oil fuel meets the specification. See section IV.E of this preamble. Today's rule requires these persons to also keep records on initial shipments of specification used oil fuel. Subsequent shipments (e.g., by distributors) are not subject to regulation.

As proposed, all records must be retained at the facility for three years, except that certification notices must be kept for three years from the date a person last engages in a waste fuel marketing transaction with the person who sent or received the certification notice. These records must be available for inspection by an officer, employee, or representative of EPA (see RCRA section 3007).

II. Storage Requirements for Hazardous Waste Fuel

As explained at proposal, today's rule expands existing requirements for storage so that *all* storage of *all* hazardous waste fuels is subject to regulation. Under previously existing provisions of 40 CFR 261.6, and continued under the solid waste definition rulemaking at Subpart D of Part 268 (see 50 FR 667 (January 4, 1985)), hazardous wastes that are listed wastes or sludges are subject to the storage standards of Parts 262, 264, and 265, when stored prior to use as a fuel and prior to use to produce a fuel. Nonsludge wastes that are hazardous only because they exhibit a characteristic of hazardous waste, and hazardous waste fuel produced by an off-site marketer by processing, blending, or other treatment of hazardous waste, were exempt from regulation prior to today's rule. All hazardous waste used to produce fuel and all hazardous waste fuel so produced are subject to today's storage requirements for the reasons given below.

A. Which Hazardous Wastes Are Subject to Storage Requirements

The Agency is today regulating the storage (and transportation) of any hazardous waste used to produce a fuel and of any hazardous waste fuel so produced. We are thus eliminating the current distinction between listed wastes and sludges on the one hand and unlisted spent materials and unlisted byproducts on the other. As explained at proposal, these distinctions are not environmentally justifiable, and exist only because of the Agency's initial uncertainty (in 1980) about an appropriate regulatory regime for recycled wastes. See 48 FR 14475 (April 4, 1983). It is now our view that a hazardous waste classification as sludge, by-product, or spent material, or listed vs. unlisted (characteristic) hazardous waste has no relation to the type of hazard the waste poses when stored, and therefore, that storage of all of these should be regulated uniformly. *Id.*

B. Eliminating the Exemption for Storage of Hazardous Waste Fuel Produced by Persons Who Did Not Generate the Waste

As proposed, today's rules subject all hazardous waste fuels to storage (and other) controls. This includes storage by the initial marketer (e.g., processors, blenders), storage by subsequent marketers (e.g., distributors), and storage by burners. (Hazardous waste storage by ordinary generators whose waste is destined to be burned for energy recovery, but who do not market directly to burners, is also subject to regulation.)

The present regulatory regime provided by Subpart D of Part 268 (see 50 FR 667 (January 4, 1985)) whereby hazardous waste fuel produced by a person who neither generated the waste nor burns the fuel is exempt from regulation was intended only as an interim measure and cannot be defended on environmental grounds. The argument that hazardous waste fuels function as valuable inventory in a burner's hands and so will be stored safely does not appear tenable, and already has been rejected by the Agency. See 50 FR 617-618, 632, 643 (January 4, 1985). Hazardous waste fuels in many cases do not command substantial economic value; in some situations, burners are even paid to accept these materials. In addition, the fact that a hazardous waste fuel is being stored as a commodity is insufficient to prevent substantial risk. There have been many damage incidents from product and raw material storage,

examples being spills from underground and above-ground product storage tanks, including fuel storage tanks. See 49 FR 29418 (July 20, 1984). Indeed, the Agency has found that leaks and spills from hazardous waste tank storage is very likely, and that this risk is substantial and requires regulatory control. See also Section 601 of the Hazardous and Solid Waste Amendments of 1984 requiring EPA to regulate underground storage tanks storing products. The Agency also has been told by State regulatory officials and used oil fuel dealers that hazardous waste fuels are suspected of causing a number of fires in the New York City and New Jersey areas. Another commenter described a "major accident at a cement kiln using waste-derived fuels." The Agency thus does not see any reason to regulate this type of hazardous waste storage differently from other hazardous waste storage.

Today's rule subjects all storage of all hazardous waste fuels to the storage standards provided by 40 CFR Parts 262 (for short-term accumulation of fuels by a generator who burns his waste on site or who markets directly to a burner), 264, and 265, with one exception. As proposed, we are not subjecting hazardous waste fuel storage by an existing burner to the final permitting standards of 40 CFR Part 264 at this time for several reasons. Because we intend to regulate most burning of hazardous waste fuels in a manner that would require some form of permitting, we do not want to issue a permit to a burner for storage and then have to issue a second permit in the near future for burning. We thus plan to delay adopting final permitting storage standards for existing burners until a single permit proceeding can address both burning and storage. Thus, existing burners will be subject only to the storage standards for tanks and containers contained in Part 265.

In addition, as proposed, a permit is not presently required to store off-specification used oil fuel. EPA is not imposing storage requirements on used oil fuel at this time because the Agency wishes to avoid the piecemeal regulation of used oil storage which would result were we to regulate used oil fuel storage in advance of other types of used oil storage. Storage requirements will be proposed when the Agency proposes comprehensive regulations for recycled oil on the next future.

Hazardous waste fuels stored by a marketer are subject to regulation. Thus, as explained at proposal, storage of both incoming hazardous waste and outgoing hazardous waste fuels are regulated.

Many marketers are already subject to regulation as storage facilities because they store incoming listed wastes and sludges, and may be operating under interim status standards. These marketers need to amend their Part A storage applications to seek an authorization to expand their interim status operations to include the waste fuel storage area. See § 270.72.

Numerous comments were received on the proposed storage requirements. Many commenters opposed compliance with the storage standards for industrial boiler owners and operators because they believed they were unnecessary since industrial boiler owners and operators are well aware of the hazards of storage and handling of hazardous waste. Compliance with the storage standards would cause them to incur large costs for little reason, they argued. We disagree. We have noted above that burner storage facilities have been exempt from regulation only as an interim measure and the exemption cannot be defended on environmental grounds. See also 50 FR 643 (January 4, 1985) where the Agency discussed why it was unable to eliminate any requirements from Part 265 (or 264) storage standards for recycled hazardous wastes.

Other commenters suggested class permitting of storage facilities. EPA will consider issues concerning permitting of burner storage facilities when the permit standards for existing burners (and storage) are proposed in 1986. Today's rule applies only the interim status Part 265 standards to existing burner storage facilities (the predominant class of storage units affected by this rule).

III. Examples of How These Regulations Operate

The following hypothetical examples illustrate how the rules operate:

1. Generator G generates a hazardous waste and sends it to burner B who stores it in a tank prior to burning in an industrial boiler for energy recovery.

G is a hazardous waste fuel marketer because he markets directly to a burner. Assuming that G is a large quantity generator (and EPA is unaware of situations where small quantity generators send hazardous wastes directly to burners), he must comply with the requirements for marketers, including the manifest and storage requirements, and notification as a hazardous waste fuel marketer. Prior to sending the first shipment, he must also obtain a certification from B that B has notified EPA of his waste-as-fuel activities and that he will burn the fuel only in unrestricted units (i.e., industrial boilers, industrial furnaces and utility

boilers). B is a hazardous waste fuel burner and a RCRA storage facility. Assuming he already is engaging in hazardous waste management activities as a facility, he must comply with the interim status standards for storage (including submitting a Part A permit application). If B is a new storage facility (i.e., is not in existence as a facility at the time these rules become effective), he must obtain a storage permit prior to storing the hazardous waste fuel. He must also notify EPA of his waste-as-fuel activities and provide G with the certification discussed above prior to receiving the first shipment. B will have one identification number for storage and burning.

2.A. Generator G, a large quantity generator, generates a hazardous waste but sends it to an intermediate processor P, who mixes it with other wastes and sells the mixture to a burner B who stores it in a tank prior to burning in an industrial boiler for energy recovery.

G is subject to regulation under Part 262 as a generator and must comply with the manifest system and applicable storage requirements. He is not subject to the requirements for marketers. P is a marketer. He must obtain a storage permit to store the hazardous wastes received from the generator. The blended mixture is hazardous waste fuel and is subject to the storage controls under Parts 264 and 265. P and B must notify EPA of their waste-as-fuel activities, and must comply with the certification requirements. B is a hazardous waste fuel burner who has a RCRA storage facility subject to the interim status controls of Part 265 (assuming the facility is in existence at the time the rule is effective).

2.B. G, a large quantity generator, generates a hazardous waste and mixes it with used oil. The mixture is sent to P, who does further blending with used oil, and then sends the mixture to B where it is burned as in the previous example.

The controls operate in this situation just as in the previous example. A mixture of large quantity generator hazardous waste and used oil is subject to regulation as hazardous waste.

2.C. G is a small quantity generator who generates a hazardous waste and mixes it with used oil, as in example 2.B. G sends the mixture to processor P, who processes the material further and sells processed oil as fuel. The fuel meets the specification for used oil. It then is sold to retail fuel dealers and to industrial and nonindustrial users.

In this situation (i.e., where a small quantity generator mixes its hazardous waste with used oil), the mixture is exempt (for the time being) from

regulation as hazardous waste under the provisions of 40 CFR 261.5 but (for the time being) is subject to regulation as used oil when obtained by a used oil fuel marketer, P. Thus, G (who incidentally is not a marketer) may send his used oil to P without an invoice. P is a marketer of used oil fuel. He must notify EPA of his waste-as-fuel activities and obtain a U.S. EPA Identification Number. He also must document with analyses (or other information) that the used oil fuel he markets meets the specification since he receives used oil from a generator (or from a transporter who receives oil from a generator) and markets used oil fuel as specification used oil fuel. In addition, he must keep records of the shipment and the person to whom the oil is first sent. The used oil fuel is exempt from further regulation and may be sent to burners or retail fuel dealers (i.e., distributors) who do not have EPA identification numbers, and who may sell the fuel on an unrestricted basis.

If, as is more likely, P determines that the used oil fuel does not meet the specification, P can only send it to persons who have certified to him that they have notified EPA of their waste-as-fuel activities and will burn the fuel only in industrial boilers, utility boilers, or industrial furnaces. P would have to prepare and send invoices for the off-specification used oil fuel. The retail fuel dealers (i.e., distributors) who receive the off-specification used oil fuel are marketers and cannot send the fuel to nonindustrial users unless it is processed further to meet the fuel specification (and they document with analyses or other information that the fuel meets the specification and keep records of the shipment and the person to whom the oil is first sent). Marketers and burners must keep records of invoices and certifications sent and received and fuel analyses (or other information) documenting compliance with the fuel specification (where required).

3.A. P is a used oil processor who receives used oil from a variety of sources and blends them to make fuels. The used oil is not mixed with hazardous waste. The blended fuel that P produces is off-specification for lead. P sends this fuel to R, a retail fuel dealer. R blends the fuel further so that it meets the lead specification. R then sells the fuel to industrial and nonindustrial users.

P is a marketer of used oil fuel. Because the used oil fuel is off-specification, it can be sent only to a person (e.g., R) who has certified to P that he has notified EPA of his waste-as-

fuel activities (and obtained a U.S. EPA Identification Number), and P must send an invoice to R. R is also a marketer because he receives off-specification used oil fuel. Since R markets the used oil fuel as specification fuel (by marketing to industrial boilers without complying with the invoice, notification, and other requirements), he must document with analyses or other information that the fuel meets the specification. R must also keep records of the shipment and the person to whom the specification used oil fuel is first sent. Marketers and burners must keep records as discussed previously.

3.B. Processor P receives used oil from different generators, and also receives spent halogenated solvents that are listed as hazardous waste. P blends the hazardous solvents with the used oil. Some of the spent halogenated solvents were generated by large quantity generators. The mixture contains less than 1000 ppm total halogens and meets the specification for all other constituents and parameters. P sells this blended fuel to R, as in example 3.A.

P is a marketer of hazardous waste fuel because he has mixed hazardous waste with used oil. There is no need to invoke the presumption of mixing with hazardous waste (based on total halogen levels) because it is known on these facts that hazardous waste and used oil have been mixed. (As explained in section IV-B of Part II of this preamble, it is not always certain when used oil is mixed with hazardous waste. In those cases, EPA is employing a rebuttable presumption of mixing with halogenated hazardous waste when halogen levels exceed 1000 ppm.) Finally, the used oil fuel specification does not apply to hazardous waste and, thus, does not apply to the mixture.

4.A. Petroleum refinery G generates API separator sludge (Hazardous Waste K052) and reintroduces it to the refining process upstream from distillation.

All resulting fuels (including petroleum coke) from the refining process are exempt from regulation at this time because the API separator sludge is a hazardous waste from petroleum refining which is introduced to refining process. The API separator sludge is not automatically exempt from regulation until it is reintroduced.

4.B. Petroleum refinery G generated API separator sludge, and sends it to a different refinery where it is reintroduced to the refining process upstream from distillation.

All resulting rules are exempt for the same reason as in 4.A. The API separator sludge is not automatically

exempt until it is reintroduced.

4.C. Petroleum refinery G generates API separator sludge and sends it to fuel processor P who processes the sludge along with used oil in a process that accepts crude oil but does not include distillation as a process step. The resulting fuels meet the used oil fuel specification.

The fuels produced by processor P are not subject to regulation (aside from P maintaining a record of the first person to whom the fuels are sent). They would be subject to regulation as hazardous waste fuels if they failed to meet the fuel specification. In addition, processor P needs a storage permit or interim status to store the API separator sludge.

5.A. Same facts as in 4.A. above, except that refinery G reclaims oil from the API separator sludge and reintroduces the recovered oil to the refining process.

Both the reclaimed oil (which is to be refined) and the resulting fuels are exempt from regulation.

5.B. Same facts as in 4.B. above, except that reclaimed oil (i.e., oil reclaimed from the API separator sludge) is sent to the other refinery.

Both the reclaimed oil and the resulting fuels are exempt from regulation.

5.C. Same facts as in 4.C. above, except that reclaimed oil is sent to fuel processor P.

Here, the reclaimed oil is not automatically exempt, because it is not being refined (since the fuel processor is not using distillation as a process step). The resulting fuel is exempt (aside from a recordkeeping step for P) if it meets the used oil fuel specification.

6. Processor P obtains contaminated used oil which it processes via distillation to produce a fuel. Oil-bearing hazardous wastes from petroleum refining are also used in the process. The resulting fuel meets the used oil fuel specification.

The fuel is exempt because it meets the used oil fuel specification. See § 261.6(a)(3)(viii)(A). If the used oil fuel did not meet the fuel specification, it would be considered hazardous waste fuel and be subject to full regulation. This situation should be distinguished from one where oil-bearing hazardous wastes from refining are reintroduced to a refining process. The process here is not considered to be refining, in spite of the use of distillation, because it does not produce products from crude oil.

PART FIVE: ADMINISTRATIVE, ECONOMIC, AND ENVIRONMENTAL IMPACTS, AND LIST OF SUBJECTS

I. State Authority

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization.) Following authorization EPA retains enforcement authority under sections 3008, 7003 and 3013 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA) amending RCRA, a State with final authorization administered its hazardous waste program entirely in lieu of EPA administering the Federal program in that State. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State which the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obligated to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under newly enacted section 3008(g) of RCRA, 42 U.S.C. 6928(g), new requirements and prohibitions imposed by the HSWA take effect in authorized States at the same time that they take effect in nonauthorized States. EPA is directed to carry out those requirements and prohibitions in authorized States, including issuing permits, until the State is granted authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

Today's rule, with respect to hazardous waste fuels, (40 CFR 266.30-266.35) is promulgated pursuant to section 3004(q), a provision added by HSWA. Thus it is being added to Table 1 in § 271.1(j) which identifies the Federal program requirements that are promulgated pursuant to HSWA and thus are immediately effective in authorized States. States may apply for either interim or final authorization for the HSWA provisions identified in Table 1 as discussed in the following section of this preamble.

The used oil fuel standards adopted today at 40 CFR 266.40-266.44 also are applicable in all States, although for a different reason. Used oil fuel is not presently regulated as a hazardous waste under section 3001. Instead, today's regulations are promulgated pursuant to the Used Oil Recycling Act (codified as section 3014(a) of RCRA) which directs EPA to regulated recycled used oil even if used oil is not a hazardous waste. Section 3014(a) requirements apply in all States as Federal law and operate independently of sections 3001 through 3006. EPA, however, is about to propose to list used oil as a hazardous waste pursuant to authority contained in section 3014(b) of RCRA, a provision added by HSWA. Should EPA adopt this listing as a final rule, all rules regarding management of recycled used oil thus would be applicable in all States by virtue of section 3006(g) as well as section 3014. At that point, authorized States would be required to revise their programs to adopt these rules as discussed below.

B. Effect on State Authorizations.

As noted above, the hazardous waste fuel rules promulgated today are effective in all States. Thus, EPA will implement the standards in nonauthorized States and in authorized States until they revise their programs to adopt these rules and the revision is approved by EPA.

A State may apply to receive either interim or final authorization to administer and enforce the hazardous waste fuel rules under section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State program revisions under section 3006(b) are described in 40 CFR 271.21. See 49 FR at 21878 (May 22, 1984). The same procedures should be followed for section 3006(g)(2).

Applying § 271.21(e)(2), States that have final authorization must revise their programs within a year from today if only regulatory changes are necessary, or within two years of promulgation if statutory changes are necessary. These deadlines can be extended in exceptional cases (40 CFR 271.21(e)(3)).

States with authorized RCRA programs already may have requirements similar to those in today's rule. These State regulations have not been assessed against the Federal regulations being promulgated today to determine whether they meet the tests for authorization. Thus, a State is not authorized to carry out these requirements in lieu of EPA until a State

program revision is submitted and approved. Of course, States with existing standards may continue to administer and enforce their standards as a matter of State law. In implementing the Federal program EPA will work with States under cooperative agreements to minimize duplication of efforts. In many cases EPA will be able to defer to the States in their efforts to implement their programs, rather than take separate actions under Federal authority.

States that submit official applications for final authorization less than 12 months after promulgation of EPA's regulations may be approved without including standards equivalent to those promulgated. However, once authorized, a State must revise its program to include standards substantially equivalent or equivalent to EPA's within the time periods discussed above.

II. Regulatory Impacts

A. Results of Regulatory Impact Studies

1. *Executive Order 12291.* As defined by Executive Order 12291, today's regulation is not a "major rule". Therefore, no Regulatory Impacts Analysis (RIA) is required. This rule will not have an annual impact on the national economy greater than \$100 million. The estimated maximum costs of today's rule are an initial (one-time) expenditure of \$6 million and annual costs of \$20.9 million. The majority of affected facilities will incur less than \$1000 in additional costs with the maximum expenditure for any one facility expected to be approximately \$7000 per year. In addition, these regulations will not significantly affect competition, employment, productivity or innovation.

This rule was submitted to the Office of Management and Budget (OMB) for review under Executive Order 12291.

2. *Regulatory Flexibility Act.* We have determined that today's rule will not have a significant impact on a substantial number of small businesses and that, therefore, no Regulatory Flexibility Analysis (RFA) is required under the Regulatory Flexibility Act. Although a large number of small businesses managing used oil will be affected by some parts of the rules, we estimate that the maximum costs that could be imposed will be less than 5% of product price and will not cause a 5% closure rate. Cost of compliance data presented at proposal (see 50 FR 1708-1712) indicate that the rules may increase the cost of a marketer's used oil fuel by 1 to 3 cents per gallon. EPA does not consider this a significant increase given that generators are paid 15 to 25

cents per gallon for their used oil, and marketers charge burners 50 to 75 cents per-gallon for used oil fuel.

3. *Paperwork Reduction Act.* The requirements of the Paperwork Reduction Act of 1980 (PRA), 44 U.S.C. 3501 et seq., were considered in developing these regulations. We believe that the reporting and recordkeeping required by today's rules are the minimum necessary to implement and enforce the regulations.

The information collection requirements contained in this rule have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. and have been assigned OMB control numbers 2050-0028 (notification), 2050-0009 (storage permits), 2050-0039 (manifest shipping papers, and 2050-0047 (invoice shipping papers, certification, and used oil analysis).

B. Impacts on the Recycling Industry

1. *Used Oil Fuel.* In the proposal, we stated that we did not believe that these regulations would discourage the recycling or recovery of used oil. The rules only restrict used oil entering the nonindustrial fuel market. EPA stated in the proposal that any used oil not sold to this market could be sold to industrial users or used as re-refining feedstock.

Many comments were received on the subject of the impact of the rules, as proposed, on the used oil industry. Most of the parties who commented were concerned that the Agency underestimated costs and impacts. Commenters related impacts to decreased value of used oil and the absence of viable markets for displaced used oil. The Agency maintains that the costs and impacts presented in the proposed rulemaking (50 FR 1707-1714) are generally complete and reasonable projections. We predict that today's rule will have minimal impacts on net recycling because significant alternative markets exist.¹⁰¹

The Agency also received a number of comments stressing the need to maintain viable recycling markets, particularly for used oil. Commenters frequently discussed impacts on their particular industry or practices. EPA maintains that this proposal will not reduce net

¹⁰¹ It should be noted that the effective date of the lead specification is delayed six months expressly to avoid major disruption of the used oil recycling industry that could result in dumping. As shown in Table 5 in the text, delaying the effective date of the lead specification is expected to more than double the amount of (unblended) used oil that can meet the specification for metals.

recycling. This proposal does not restrict combustion of hazardous wastes or recycled oil in industrial devices. Nor does it restrict other recycling, such as used oil rerefining and solvent reclamation. We recognize that the regulation will cause some market shifts, but maintain that net recycling will not decrease. Commenters confused impacts of this proposal with those of more extensive regulations of the Phase II standards that include industrial burners—which this rule does not address. Many commenters apparently presumed that recycled oil was banned from industrial boilers. The Agency may apply a similar specification to recycled oil burned in boilers under the Phase II regulations. The costs and impacts of that rule, however, will be presented when that rule is proposed. Those costs and impacts are not part of today's rule. We maintain that today's regulation does not impose major impacts that require an RIA.

2. Hazardous Waste Fuel.

Commenters suggested that permits for small hazardous waste storage facilities may cost \$25,000, not the \$10,000 we suggested in the proposal.¹⁴² EPA estimated a \$10,000 expenditure because we utilized the cost of amending an existing Part B permit in our cost estimate, not the cost of obtaining a new permit. The rule requires Part B storage permits only for facilities marketing hazardous waste fuels (and for new hazardous waste fuel burner facilities). We have assumed virtually all hazardous waste fuel contains listed hazardous waste. Thus, the marketer's feedstock tanks (i.e., tanks for incoming wastes) are already subject to regulation, the marketer's facilities affected by today's rule would already have RCRA permits.

In the proposal, the Agency applied unit costs to represent the total incremental costs of these requirements above current requirements and practices. The costs related to this regulation are not the total investments, revenues, or value of products of associated businesses, as some commenters suggested. We estimate that this regulation will impose direct costs of up to \$21 million per year (annualized). This is one of the reasons why this regulation is not a major rule and does not require an RIA.

¹⁴² It should be noted that these storage facility cost estimates do not include the cost of providing secondary containment (or alternate equivalent controls), a requirement EPA recently proposed for hazardous waste storage facilities. See 50 FR 26444-26504 (June 25, 1985).

III. Explanation of Compliance Dates

At proposal (see 50 FR 1714), EPA expressly requested comment on staggering the compliance dates for the regulatory requirements to make them effective as soon as practicable during the 1985-86 heating season. Although commenters did not indicate that the compliance dates were unreasonable, we have decided that the proposed 30-day compliance date for notifications may not give notifiers enough time to request and receive notification applications from their State hazardous waste agency, and to complete and submit the form. Thus, the final rule allows notifiers two months after today to notify regarding their waste-as-fuel activities.

We are making a corresponding change to the compliance date for the manifest (or invoice) system. Given that marketers and burners must include their U.S. EPA Identification Number (assigned after receipt of notification) on manifests and invoices, and that it may take as long as two months after receipt of an application to apprise a notifier of his Identification Number, (if he is not renotifying to identify waste-as-fuel activities) the compliance date for the manifest (or invoice) system is four months after today. (The proposed compliance date was 90 days after publication.)

Compliance dates for the prohibitions (i.e., 10 days after today) and for the storage controls (i.e., six months after today) are adopted as proposed.

The compliance date for each regulatory requirement is shown in the "DATES" section at the beginning of this preamble.

IV. List of Subjects

40 CFR Part 261

Hazardous waste, Recycling.

40 CFR Part 264

Hazardous waste, Insurance, Packaging and containers, Reporting and recordkeeping requirements, Security measures, Surety bonds.

40 CFR Part 265

Hazardous waste, Insurance, Packaging and containers, Reporting and recordkeeping requirements, Security measures, Surety bonds, Water supply.

40 CFR Part 266

Hazardous waste, Recycling.

40 CFR Part 271

Administrative practice and procedure, Confidential business information, Hazardous materials

transportation, Hazardous waste, Indian lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control, Water supply.

Dated: November 8, 1985.

Lee M. Thomas,
Administrator.

For the reasons set out in the Preamble, Title 40 of the Code of Federal Regulations is amended as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for Part 261 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001, and 3002, of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921, and 6922).

2. Section 261.3 is amended by adding to paragraph (c)(2)(ii) the following (B):

§ 261.3 Definition of hazardous waste.

- (c) . . .
- (2) . . .
- (ii) . . .

(B) Wastes from burning any of the materials exempted from regulation by § 261.6(a)(3) (iv), (vi), (vii), or (viii).

3. Section 261.5 is amended by revising paragraph (b) to read as follows:

§ 261.5 Special requirements for hazardous waste generated by small quantity generators.

(b) Except for those wastes identified in paragraphs (e), (f), (g), (h), and (k) of this section, a small quantity generator's hazardous wastes are not subject to regulation under Parts 262 through 266 and Parts 270 and 124 of this chapter, and the notification requirements of Section 3010 of RCRA, provided the generator complies with the regulations of paragraphs (f), (g), (h), and (k) of this section.

4. Section 261.5 is amended by adding a new paragraph (k) to read as follows:

§ 261.5 Special requirements for hazardous waste generated by small quantity generators.

(k) If a small quantity generator's hazardous wastes are mixed with used oil, the mixture is subject to Subpart E of Part 266 of this chapter if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other

treatment is also so regulated if it is destined to be burned for energy recovery.

5. Section 261.6 is amended by revising paragraphs (a)(2)(iii), and (a)(3)(iii), and adding new paragraphs (a)(3)(viii) and (ix). Although only the above changes are made under this rulemaking, the entire § 261.6, including provisions not affected by today's rules, is printed here for the reader's convenience.

§ 261.6 Requirements for recyclable materials.

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under Subparts C through G of Part 266 of this chapter and all applicable provisions in Parts 270 and 124 of this chapter:

(i) Recyclable materials used in a manner constituting disposal (Subpart C);

(ii) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of Part 264 or 265 of this chapter (Subpart D);

(iii) Used oil that exhibits one or more of the characteristics of hazardous waste and is burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of Part 264 or 265 of this chapter (Subpart E);

(iv) Recyclable materials from which precious metals are reclaimed (Subpart F);

(v) Spent lead-acid batteries that are being reclaimed (Subpart G).

(3) The following recyclable materials are not subject to regulation under Parts 262 through 266 or Parts 270 or 124 of this chapter, and are not subject to the notification requirements of section 3010 of RCRA:

(i) Industrial ethyl alcohol that is reclaimed;

(ii) Used batteries (or used battery cells) returned to a battery manufacturer for regeneration;

(iii) Used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some other manner than being burned for energy recovery;

(iv) Scrap metal;

(v) Fuels produced from the refining of oil-bearing hazardous wastes along with

normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices;

(vi) Oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, which oil is to be refined along with normal process streams at a petroleum refining facility;

(vii) Coke and coal tar from the iron and steel industry that contains hazardous waste the iron and steel production process;

(viii) (A) Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under § 266.40(e) of this chapter and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

(B) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under § 266.40(e) of this chapter; and

(C) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under § 266.40(e) of this chapter; and

(ix) Petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which such wastes were generated, unless the resulting coke product exceeds one or more of the characteristics of hazardous waste in Part 261, Subpart C.

(b) Generators and transporters of recyclable materials are subject to the applicable requirements of Parts 262 and 263 of this chapter and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section.

(c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of Subparts A through L of Parts 264 and 265 and Parts 266, 270, and 124 of this chapter and the

notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation.)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) Notification requirements under section 3010 of RCRA;

(ii) Sections 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies) of this chapter.

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

6. The authority citation for Part 264 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, 3005, of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6925).

7. Section 264.340 is amended by revising paragraph (a)(2) to read as follows:

§ 264.340 Applicability.

(a) * * *

(2) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy them, or who burn hazardous waste in boilers or in industrial furnaces for any recycling purpose and elect to be regulated under this subpart.

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES

8. The authority citation for part 265 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, and 3005 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6924, and 6925).

9. Section 265.340 is amended to revise paragraph (a)(2) to read as follows:

§ 265.340 Applicability.

(a) * * *

(2) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy them, or who burn hazardous waste in boilers or in industrial furnaces for any

recycling purpose and elect to be regulated under this subpart.

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC WASTES AND SPECIFIC TYPES OF WASTE MANAGEMENT FACILITIES

10. The authority citation for Part 266 is revised to read as follows:

Authority: Secs. 1006, 2002(a), 3004, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6934).

11. Subpart D is revised to read as follows:

Subpart D—Hazardous Waste Burned for Energy Recovery

Sec.

- 266.30 Applicability.
- 266.31 Prohibitions.
- 266.32 Standards applicable to generators of hazardous waste fuel.
- 266.33 Standards applicable to transporters of hazardous waste fuel.
- 266.34 Standards applicable to marketers of hazardous waste fuel.
- 266.35 Standards applicable to burners of hazardous waste fuel.

Subpart D—Hazardous Waste Burned for Energy Recovery

§ 266.30 Applicability.

(a) The regulations of this subpart apply to hazardous wastes that are burned for energy recovery in any boiler or industrial furnace that is not regulated under Subpart Q of Part 264 or 265 of this chapter, except as provided by paragraph (b) of this section. Such hazardous wastes burned for energy recovery are termed "hazardous waste fuel". Fuel produced from hazardous waste by processing, blending, or other treatment is also hazardous waste fuel. (These regulations do not apply, however, to gas recovered from hazardous waste management activities when such gas is burned for energy recovery.)

(b) The following hazardous wastes are not subject to regulation under this subpart:

(1) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter. Such used oil is subject to regulation under Subpart E of Part 266 rather than this subpart; and

(2) Hazardous wastes that are exempt from regulation under §§ 261.4 and 261.8(a) (3) (v)–(ix) of this chapter, and hazardous wastes that are subject to the

special requirements for small quantity generators under § 261.5 of this chapter.

§ 266.31 Prohibitions.

(a) A person may market hazardous waste fuel only:

(1) To persons who have notified EPA of their hazardous waste fuel activities under section 3010 of RCRA and have a U.S. EPA Identification Number; and

(2) If the fuel is burned, to persons who burn the fuel in boilers or industrial furnaces identified in paragraph (b) of this section.

(b) Hazardous waste fuel may be burned for energy recovery in only the following devices:

(1) Industrial furnaces identified in § 260.10 of this chapter;

(2) Boilers, as defined in § 260.10 of this chapter, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(ii) Utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale.

(c) No fuel which contains any hazardous waste may be burned in any cement kiln which is located within the boundaries of any incorporated municipality with a population greater than 500,000 (based on the most recent census statistics) unless such kiln fully complies with regulations under this chapter that are applicable to incinerators.

§ 266.32 Standards applicable to generators of hazardous waste fuel.

(a) Generators of hazardous waste that is used as a fuel or used to produce a fuel are subject to Part 262 of this chapter.

(b) Generators who market hazardous waste fuel to a burner also are subject to § 266.34.

(c) Generators who are burners also are subject to § 266.35.

§ 266.33 Standards applicable to transporters of hazardous waste fuel.

Transporters of hazardous waste fuel (and hazardous waste that is used to produce a fuel) are subject to Part 263 of this chapter.

§ 266.34 Standards applicable to marketers of hazardous waste fuel.

Persons who market hazardous waste fuel are termed "marketers", and are subject to the following requirements. Marketers include generators who market hazardous waste fuel directly to

a burner, persons who receive hazardous waste from generators and produce, process, or blend hazardous waste fuel from these hazardous wastes, and persons who distribute but do not process or blend hazardous waste fuel.

(a) *Prohibitions.* The prohibitions under § 266.31(a);

(b) *Notification.* Notification requirements under section 3010 of RCRA for hazardous waste fuel activities. Even if a marketer has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

(c) *Storage.* The applicable provisions of § 262.34, and Subparts A through L of Part 264, Subparts A through L of Part 265, and Part 270 of this chapter;

(d) *Off-site shipment.* The standards for generators in Part 262 of this chapter when a marketer initiates a shipment of hazardous waste fuel;

(e) *Required notices.* (1) Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

(i) The burner or marketer has notified EPA under Section 3010 of RCRA and identified his waste-as-fuel activities; and

(ii) If the recipient is a burner, the burner will burn the hazardous waste fuel only in an industrial furnace or boiler identified in § 261.31(b).

(2) Before a marketer accepts the first shipment of hazardous waste fuel from another marketer, he must provide the other marketer with a one-time written and signed certification that he has notified EPA under section 3010 of RCRA and identified his hazardous waste fuel activities; and

(f) *Recordkeeping.* In addition to the applicable recordkeeping requirements of Parts 262, 264, and 265 of this chapter, a marketer must keep a copy of each certification notice he receives or sends for three years from the date he last engages in a hazardous waste fuel marketing transaction with the person who sends or receives the certification notice.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The storage requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0009. The manifest and invoice requirements contained in paragraph (d) of this section were approved by OMB under control numbers 2050-0039 and 2050-0047, respectively. The certification requirements contained in paragraph (e) of this section

were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (f) of this section were approved by OMB under control number 2050-0047.)

§ 266.35 Standards applicable to burners of hazardous waste fuel.

Owners and operators of industrial furnaces and boilers identified in § 266.31(b) that burn hazardous fuel are "burners" and are subject to the following requirements:

(a) *Prohibitions.* The prohibitions under § 266.31(b);

(b) *Notification.* Notification requirements under section 3010 of RCRA for hazardous waste fuel activities. Even if a burner has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

(c) *Storage.* (1) For short term accumulation by generators who burn their hazardous waste fuel on site, the applicable provisions of § 262.34 of this chapter;

(2) For existing storage facilities, the applicable provisions of Subparts A through L of Part 265, and Parts 270 and 124 of this chapter; and

(3) For new storage facilities, the applicable provisions of Subparts A through L of Part A 264, and Parts 270 and 124 of this chapter;

(d) *Required notices.* Before a burner accepts the first shipment of hazardous waste fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) He has notified EPA under section 3010 of RCRA and identified his waste-as-fuel activities; and

(2) He will burn the fuel only in a boiler or furnace identified in § 266.31(b).

(e) *Recordkeeping.* In addition to the applicable recordkeeping requirements of Parts 264 and 265 of this chapter, a burner must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives hazardous waste fuel from that marketer.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The storage requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0009. The certification requirements contained in paragraph (d) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (e) of this section were approved by OMB under control number 2050-0047.)

12. Subpart E is added as follows:

Subpart E—Used Oil Burned for Energy Recovery

Sec.

266.40 Applicability.

266.41 Prohibitions.

266.42 Standards applicable to generators of used oil burned for energy recovery.

266.43 Standards applicable to marketers of used oil burned for energy recovery.

266.44 Standards applicable to burners of used oil burned for energy recovery.

Subpart E—Used Oil Burned for Energy Recovery

§ 266.40 Applicability.

(a) The regulations of this subpart apply to used oil that is burned for energy recovery in any boiler or industrial furnace that is not regulated under Subpart O of Part 264 or Part 265 of this chapter, except as provided by paragraphs (c) and (e) of this section. Such used oil is termed "used oil fuel". Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment.

(b) "Used oil" means any oil that has been refined from crude oil, used, and, as a result of such use, is contaminated by physical or chemical impurities.

(c) Except as provided by paragraph (d) of this section, used oil that is mixed with hazardous waste and burned for energy recovery is subject to regulation as hazardous waste fuel under Subpart D of Part 266. Used oil containing more than 1000 ppm of total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of Part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Part 261 of this chapter).

(d) Used oil burned for energy recovery is subject to regulation under this subpart rather than as hazardous waste fuel under Subpart D of this part if it is a hazardous waste solely because it:

(1) Exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter, provided that it is not mixed with a hazardous waste; or

(2) Contains hazardous waste generated only by a person subject to the special requirements for small quantity generators under § 261.5 of this chapter.

(e) Except as provided by paragraph (c) of this section, used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or

other treatment, is subject to regulation under this subpart unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in the following table. Used oil fuel that meets the specification is subject only to the analysis and recordkeeping requirements under §§ 266.43(b) (1) and (6). Used oil fuel that exceeds any specification level is termed "off-specification used oil fuel".

USED OIL EXCEEDING ANY SPECIFICATION LEVEL IS SUBJECT TO THIS SUBPART WHEN BURNED FOR ENERGY RECOVERY *

Constituent/property	Allowable level
Arsenic	5 ppm maximum.
Cadmium	2 ppm maximum.
Chromium	10 ppm maximum.
Lead	100 ppm maximum.
Flash Point	100 °F minimum.
Total Halogens	4,000 ppm maximum.*

* The specification does not apply to used oil fuel mixed with a hazardous waste other than small quantity generator hazardous waste.

* Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under § 266.40(c). Such used oil is subject to Subpart D of this part rather than this subpart when burned for energy recovery unless the presumption of being can be successfully rebutted.

§ 266.41 Prohibitions.

(a) A person may market off-specification used oil for energy recovery only:

(1) To burners or other marketers who have notified EPA of their used oil management activities stating the location and general description of such activities, and who have an EPA identification number; and

(2) To burners who burn the used oil in an industrial furnace or boiler identified in paragraph (b) of this section.

(b) Off-specification used oil may be burned for energy recovery in only the following devices:

(1) Industrial furnaces identified in § 260.10 of this chapter; or

(2) Boilers, as defined in § 260.10 of this chapter, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(ii) Utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale; or

(iii) Used oil-fired space heaters provided that:

(A) The heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil

changers who generate used oil as household waste;

(B) The heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

(C) The combustion gases from the heater are vented to the ambient air.

§ 266.42 Standards applicable to generators of used oil burned for energy recovery.

(a) Except as provided in paragraphs (b) and (c) of this section, generators of used oil are not subject to this subpart.

(b) Generators who market used oil directly to a burner are subject to § 268.43.

(c) Generators who burn used oil are subject to § 268.44.

§ 266.43 Standards applicable to marketers of used oil burned for energy recovery.

(a) Persons who market used oil fuel are termed "marketers". However, the following persons are not marketers subject to this Subpart:

(1) Used oil generators, and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. However, persons who burn some used oil fuel for purposes of processing or other treatment to produce used oil fuel for marketing are considered to be burning incidentally to processing. Thus, generators and collectors who market to such incidental burners are not marketers subject to this subpart;

(2) Persons who market only used oil fuel that meets the specification under § 268.40(e) and who are not the first person to claim the oil meets the specification (i.e., marketers who do not receive used oil from generators or initial transporters and marketers who neither receive nor market off-specification used oil fuel).

(b) Marketers are subject to the following requirements:

(1) *Analysis of used oil fuel.* Used oil fuel is subject to regulation under this subpart unless the marketer obtains analyses or other information documenting that the used oil fuel meets the specification provided under § 268.40(e).

(2) *Prohibitions.* The prohibitions under § 268.41(a);

(3) *Notification.* Notification to EPA stating the location and general description of used oil management activities. Even if a marketer has previously notified EPA of his hazardous waste management activities under section 3010 of RCRA and obtained a U.S. EPA Identification

Number, he must renotify to identify his used oil management activities.

(4) *Invoice system.* When a marketer initiates a shipment of off-specification used oil, he must prepare and send the receiving facility an invoice containing the following information:

- (i) An invoice number;
- (ii) His own EPA identification number and the EPA identification number of the receiving facility;
- (iii) The names and addresses of the shipping and receiving facilities;
- (iv) The quantity of off-specification used oil to be delivered;
- (v) The date(s) of shipment or delivery; and
- (vi) The following statement: "This used oil is subject to EPA regulation under 40 CFR Part 266";

Note.—Used oil that meets the definition of combustible liquid (flash point below 200 °F but at or greater than 100 °F) or flammable liquid (flash point below 100 °F) is subject to Department of Transportation Hazardous Materials Regulations at 49 CFR Parts 100-177.

(5) *Required notices.* (i) Before a marketer initiates the first shipment of off-specification used oil to a burner or other marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

(A) The burner or marketer has notified EPA stating the location and general description of his used oil management activities; and

(B) If the recipient is a burner, the burner will burn the off-specification used oil only in an industrial furnace or boiler identified in § 268.41(b); and

(ii) Before a marketer accepts the first shipment of off-specification used oil from another marketer subject to the requirements of this section, he must provide the marketer with a one-time written and signed notice certifying that he has notified EPA of his used oil management activities; and

(6) *Recordkeeping.*—(i) *Used Oil Fuel That Meets the Specification.* A marketer who first claims under paragraph (b)(1) of this section that used oil fuel meets the specification must keep copies of analysis (or other information used to make the determination) of used oil for three years. Such marketers must also record in an operating log and keep for three years the following information on each shipment of used oil fuel that meets the specification. Such used oil fuel is not subject to further regulation, unless it is subsequently mixed with hazardous waste or unless it is mixed with used oil so that it no longer meets the specification.

(A) The name and address of the facility receiving the shipment;

(B) The quantity of used oil fuel delivered;

(C) The date of shipment or delivery; and

(D) A cross-reference to the record of used oil analysis (or other information used to make the determination that the oil meets the specification) required under paragraph (b)(6)(i) of this section.

(ii) *Off-Specification Used Oil Fuel.* A marketer who receives or initiates an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received or prepared. In addition, a marketer must keep a copy of each certification notice that he receives or sends for three years from the date he last engages in an off-specification used oil fuel marketing transaction with the person who sends or receives the certification notice.

(The analysis requirements contained in paragraph (b)(1) of this section were approved by OMB under control number 2050-0047. The notification requirements contained in paragraph (b)(3) of this section were approved by OMB under control number 2050-0028. The invoice requirements contained in paragraph (b)(4) of this section were approved by OMB under control number 2050-0047. The certification requirements contained in paragraph (b)(5) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (b)(6) of this section were approved by OMB under control number 2050-0047.)

§ 266.44 Standards applicable to burners of used oil burned for energy recovery.

Owners and operators of facilities that burn used oil fuel are "burners" and are subject to the following requirements:

(a) *Prohibition.* The prohibition under § 268.41(b);

(b) *Notification.* Burners of off-specification used oil fuel must notify EPA stating the location and general description of used oil management activities, except that owners and operators of used oil-fired space heaters that burn used oil fuel under the provisions of § 268.41(b)(2) are exempt from these notification requirements. Even if a burner has previously notified EPA of his hazardous waste management activities under Section 3010 of RCRA and obtained an identification number, he must renotify to identify his used oil management activities.

(c) *Required notices.* Before a burner accepts the first shipment of off-specification used oil fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) He has notified EPA stating the location and general description of his used oil management activities; and

(2) He will burn the used oil only in an industrial furnace or boiler identified in § 266.41(b); and

(d) *Used oil fuel analysis.* (1) Used oil fuel burned by the generator is subject to regulation under this subpart unless the burner obtains analysis (or other information) documenting that the used oil meets the specification provided under § 266.40(e).

(2) Burners who treat off-specification used oil fuel by processing, blending, or other treatment to meet the specification provided under § 266.40(e) must obtain analyses (or other information) documenting that the used oil meets the specification.

(e) *Recordkeeping.* A burner who receives an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received. Burners must also keep for three years copies of analyses of used oil fuel as

may be required by paragraph (d) of this section. In addition, he must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives off-specification used oil from that marketer.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The certification requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0047. The analysis requirements contained in paragraph (d) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (e) of this section were approved by OMB under control number 2050-0047.)

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

12. The authority citation for Part 271 is revised to read as follows:

Authority: Secs. 1008, 2002(a), and 3006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act

of 1976, as amended (42 U.S.C. 6905, 6912(a), and 6926).

13. Section 271.1(j) is amended by changing the table heading and by adding the following entry to Table 1 in chronological order by date of publication:

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Date of publication in the FEDERAL REGISTER	Title of regulation
Nov. 29, 1985	Standards for the Management of Specific Wastes and Specific Types of Facilities.

Appendix—Form—Notification of Hazardous Waste Activity

EPA Form 8700-12 (Revised 11/85)

(This form will not appear in the Code of Federal Regulations.)

BILLING CODE 6550-50-12

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0028. Expires 9-30-88.
GSA No. 0246-EPA-07United States Environmental Protection Agency
Washington, DC 20460
EPA Notification of Hazardous Waste Activity

Please refer to the Instructions for Filing Notification before completing this form. The information requested here is required by law (Section 3010 of the Resource Conservation and Recovery Act).

For Official Use Only**Comments**C
C

Installation's EPA ID Number

Approved

Date Received
(yr. mo. day)C
FT/A C
1**I. Name of Installation****II. Installation Mailing Address**

Street or P.O. Box

C
3

City or Town

State

ZIP Code

C
4**III. Location of Installation**

Street or Route Number

C
5

City or Town

State

ZIP Code

C
6**IV. Installation Contact**

Name and Title (last, first, and job title)

Phone Number (area code and number)

C
2**V. Ownership**

A. Name of Installation's Legal Owner

B. Type of Ownership (enter code)

C
R**VI. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. Refer to instructions.)****A. Hazardous Waste Activity**

- ☐ 1a. Generator ☐ 1b. Less than 1,000 kg/mo.
- ☐ 2. Transporter
- ☐ 3. Treater/Storer/Disposer
- ☐ 4. Underground Injection
- ☐ 5. Market or Burn Hazardous Waste Fuel
(enter 'X' and mark appropriate boxes below)
- ☐ a. Generator Marketing to Burner
- ☐ b. Other Marketer
- ☐ c. Burner

B. Used Oil Fuel Activities

- ☐ 6. Off-Specification Used Oil Fuel
(enter 'X' and mark appropriate boxes below)
- ☐ a. Generator Marketing to Burner
- ☐ b. Other Marketer
- ☐ c. Burner
- ☐ 7. Specification Used Oil Fuel Marketer
(Or On-Site Burner) who First Claims
the Oil Meets the Specification.

VII. Waste Fuel Burning: Type of Combustion Device (enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion device.)☐ A. Utility Boiler☐ B. Industrial Boiler☐ C. Industrial Furnace**VIII. Mode of Transportation (transporters only — enter 'X' in the appropriate box(es))**☐ A. Air ☐ B. Rail ☐ C. Highway ☐ D. Water ☐ E. Other (specify)**IX. First or Subsequent Notification**

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

☐ A. First Notification ☐ B. Subsequent Notification (complete item C)

C. Installation's EPA ID Number

ID — For Official Use Only												
C											T/A	C
W												1

IX. Description of Hazardous Wastes (continued from front)

A. Hazardous Wastes from Nonspecific Sources. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. Hazardous Wastes from Specific Sources. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. Commercial Chemical Product Hazardous Wastes. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. Listed Infectious Wastes. Enter the four-digit number from 40 CFR Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. (See 40 CFR Parts 261.21 — 261.24)

☐ 1. Ignitable
(D001)

☐ 2. Corrosive
(D002)

☐ 3. Reactive
(D003)

☐ 4. Toxic
(D000)
X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Name and Official Title (type or print)	Date Signed

EPA Form 8700-12 (Rev. 11-85) Reverse

BILLING CODE 6560-50-C

IV. Line-by-Line Instructions for Completing EPA Form 8700-12

Type or print in black ink all items except Item XI, "Signature," leaving a blank box between words. When typing, hit the space bar once between characters and three times between words. If you must use additional sheets, indicate clearly the number of the item on the form to which the information on the separate sheet applies.

Items I-III—Name, Mailing Address, and Location of Installation:

Complete Items I-III. Please note that the address you give for Item III, "Location of Installation," must be a physical address, not a post office box or route number. If the mailing address and physical facility location are the same, you can print "Same" in box for Item III.

Item IV—Installation Contact:

Enter the name, title, and business telephone number of the person who should be contacted regarding information submitted on this form.

Item V—Ownership:

(A) *Name:* Enter the name of the legal owner(s) of the installation, including the property owner. Use additional sheets if necessary to list more than one owner.

(B) *Type:* Using the codes listed below, indicate the legal status of the owner of the facility:

- FF—Federally Owned, Federally Operated
- FC—Federally Owned, Operated By A Private Contractor to the Federal Government
- FP—Federally Owned, Privately Operated
- PF—Privately Owned, Constructed For Use By The Federal Government and Operated By The Federal Government
- PL—Privately Owned, Leased And Operated By The Federal Government
- FI—Privately Owned, Indian Land
- FI—Federally Owned, Indian Land
- C=County
- D=District
- M=Municipal
- P=Private
- S=State

Item VI—Type of Regulated Waste Activity:

(A) *Hazardous Waste Activity:* Mark the appropriate box(es) to show which hazardous waste activities are going on at this installation.

(1) *Generator:* (a) If you generate a hazardous waste that is identified by characteristic or listed in 40 CFR Part 261, mark an "X" in this box.

(b) In addition, if you generate less than 1000 kilograms of non-acutely-hazardous waste per calendar month, mark an "X" in this box.

(2) *Transporter:* If you move hazardous waste by air, rail, highway, or water then mark an "X" in this box. All transporters must complete Item VIII. Transporters do not have to complete Item X of this form, but must sign the certification in Item XI. Refer to Part 263 of the CFR for an explanation of the Federal regulations for hazardous waste transporters.

(3) *Treater/Storer/Disposer:* If you treat, store or dispose of regulated hazardous

waste, then mark an "X" in this box. You are reminded to contact the appropriate addressee listed for your State in Section III(C) of this package to request Part A of the RCRA Permit Application. Refer to Parts 264 and 265 of the CFR for an explanation of the Federal regulations for hazardous waste facility owners/operators.

(4) *Underground Injection:* Persons who generate and/or treat or dispose of hazardous waste must place an "X" in this box if an injection well is located at their installation. An injection well is defined as any hole in the ground, including septic tanks, that is deeper than it is wide and that is used for the subsurface placement of fluids.

(5) *Market or Burn Hazardous Waste Fuel:* If you market or burn hazardous waste fuel, place an "X" in this box. Then mark the appropriate boxes underneath to indicate your specific activity. If you mark "Burner" you must complete Item VII—"Type of Combustion Device."

Note.—Generators are required to notify for waste-as-fuel activities only if they market directly to the burner.

"Other Marketer" is defined as any person, other than the generator marketing his hazardous waste, who markets hazardous waste fuel.

(B) *Used Oil Fuel Activities:* Mark an "X" in the appropriate box(es) below to indicate which used oil fuel activities are taking place at this installation.

(6) *Off-Specification Used Oil Fuel:* If you market or burn off-specification used oil, place an "X" in this box. Then mark the appropriate boxes underneath to indicate your specific activity. If you mark "Burner" you must complete Item VII—"Type of Combustion Device."

Note.—Used oil generators are required to notify only if marketing directly to the burner.

"Other Marketer" is defined as any person, other than a generator marketing his or her used oil, who markets used oil fuel.

(7) *Specification Used Oil Fuel:* If you are the first to claim that the used oil meets the specification established in 40 CFR Part 266.40(e) and is exempt from further regulation, you must mark an "X" in this box.

Item VII—Waste-Fuel Burning: Type of Combustion Device:

Enter an "X" in all appropriate boxes to indicate type(s) of combustion devices in which hazardous waste fuel or off-specification used oil fuel is burned. (Refer to definition section for complete description of each device.)

Item VIII—Mode of Transportation:

Complete this item only if you are the transporter of hazardous waste. Mark an "X" in each appropriate box to indicate the method(s) of transportation you use.

Item IX—First or Subsequent Notification:

Place an "X" in the appropriate box to indicate whether this is your first or a subsequent notification. If you have filed a previous notification, enter your EPA Identification Number in the boxes provided.

Note.—When the owner of a facility changes, the new owner must notify U.S. EPA

of the change, even if the previous owner already received a U.S. EPA Identification Number. Because the U.S. EPA ID Number is "site-specific," the new owner will keep the existing ID number. If the facility moves to another location, the owner/operator must notify EPA of this change. In this instance a new U.S. EPA Identification Number will be assigned, since the facility has changed locations.

Item X—Description of Hazardous Waste:

(Only persons involved in hazardous waste activity (Item VI(A)) need to complete this item. Transporters requesting a U.S. EPA Identification Number do not need to complete this item, but must sign the "Certification" in Item XI.)

You will need to refer to Title 40 CFR Part 261 (enclosed) in order to complete this section. Part 261 identifies those wastes that EPA defines as hazardous. If you need help completing this section please contact the appropriate addressee for your state as listed in Section III(C) of this package.

Section A—If you handle hazardous wastes that are listed in the "nonspecific sources" category in Part 261.31, enter the appropriate 4-digit numbers in the boxes provided.

Section B—If you handle hazardous wastes that are listed in the "specific industrial sources" category in Part 261.32, enter the appropriate four-digit numbers in the boxes provided.

Section C—If you handle any of the "commercial chemical products" listed as wastes in Part 261.33, enter the appropriate four-digit numbers in the boxes provided.

Section D—Disregard, since EPA has not yet published infectious waste regulations.

Section E—If you handle hazardous wastes which are not listed in any of the categories above, but do possess a hazardous characteristic, you should describe these wastes by their hazardous characteristic. (An explanation of each characteristic found at Part 261.21-261.24.) Place an "X" in the box next to the characteristic of the wastes that you handle.

Item XI—Certification:

This certification must be signed by the owner, operator, or an authorized representative of your installation. An "authorized representative" is a person responsible for the overall operation of the facility (i.e., a plant manager or superintendent, or a person of equal responsibility). All notifications must include this certification to be complete.

V. Definitions

The following definitions are included to help you to understand and complete the Notification Form:

Act or RCRA—means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Section 6901 et seq.

Authorized Representative—means the person responsible for the overall operation of the facility or an operational unit (i.e., part of a facility), e.g., the plant manager.

superintendent or person of equivalent responsibility.

Boiler—means an enclosed device using controlled flame combustion and having the following characteristics:

(1) The unit has physical provisions for recovering and exporting energy in the form of steam, heated fluids, or heated gases;

(2) The unit's combustion chamber and primary energy recovery section(s) are of integral design (i.e., they are physically formed into one manufactured or assembled unit);

(3) The unit continuously maintains an energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(4) The unit exports and utilizes at least 75 percent of the recovered energy, calculated on an annual basis (excluding recovered heat used internally in the same unit to, for example, preheat fuel or combustion air or drive fans or feedwater pumps).

Burner—means the owner or operator of a utility boiler, industrial boiler or industrial furnace that burns waste-fuel for energy recovery and that is not regulated as a RCRA hazardous waste incinerator.

Disposal—means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

Disposal Facility—means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

EPA Identification (I.D.) Number—means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

Facility—means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

Generator—means any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of this

chapter or whose act first causes a hazardous waste to become subject to regulation.

Hazardous Waste—means a hazardous waste as defined in 40 CFR Part 261.

Hazardous Waste Fuel—means hazardous waste and any fuel that contains hazardous waste that is burned for energy recovery in a boiler or industrial furnace that is not subject to regulation as a RCRA hazardous waste incinerator. However, the following hazardous waste fuels are subject to regulation as used oil fuels:

(1) Used oil fuel that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Subpart C of 40 CFR Part 261, provided it is not mixed with hazardous waste; and

(2) Used oil fuel mixed with hazardous wastes generated by a small quantity generator subject to 40 CFR Part 261.5.

Industrial Boiler—means a boiler located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

Industrial Furnace—means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame combustion to accomplish recovery of materials or energy: cement kilns, lime kilns, aggregate kilns (including asphalt kilns), phosphate kilns, coke ovens, blast furnaces, smelting furnaces, refining furnaces, titanium dioxide chloride process oxidation reactors, and methane reforming furnaces (and other devices as the Administrator may add to this list).

Marketer—means a person who markets hazardous waste fuel or used oil fuel. However, the following marketers are not subject to waste-as-fuel requirements (including notification) under Subparts D and E of 40 CFR Part 266:

(1) Generators and initial transporters (i.e., transporters who receive hazardous waste or used oil directly from generators including initial transporters who operate transfer stations) who do not market directly to persons who burn the fuels; and

(2) Persons who market used oil fuel that meets the specification provided under 40 CFR 266.40(e) and who are not the first to claim the oil meets the specification.

Off-Specification Used Oil Fuel—means used oil fuel that does not meet the specification provided under 40 CFR 266.40(e).

Operator—means the person responsible for the overall operation of a facility.

Owner—means a person who owns a facility or part of a facility, including land owner.

Specification Used Oil Fuel—means used oil fuel that meets the specification provided under 40 CFR 266.40(e).

Storage—means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

Transportation—means the movement of hazardous waste by air, rail, highway, or water.

Transporter—means a person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

Treatment—means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

Used Oil—means any oil that has been refined from crude oil, used, and as a result of such use, is contaminated by physical or chemical impurities. Wastes that contain oils that have not been used (e.g., fuel oil storage tank bottom clean-out wastes) are not used oil unless they are mixed with used oil.

Used Oil Fuel—means any used oil burned (or destined to be burned) for energy recovery including any fuel produced from used oil by processing, blending or other treatment, and that does not contain hazardous waste (other than that generated by a small quantity generator and exempt from regulation as hazardous waste under provisions of 40 CFR 261.5). Used oil fuel may itself exhibit a characteristic of hazardous waste and remain subject to regulation as used oil fuel provided it is not mixed with hazardous waste.

Utility Boiler—means a boiler that is used to produce electricity, steam or heated or cooled air for sale.

Waste Fuel—means hazardous waste fuel or off-specification used oil fuel.

[FR Doc. 85-27903 Filed 11-27-85; 8:45 am]

BILLING CODE 5850-50-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR PARTS 260, 261, 266, 270, and 271

[SWH-FRL 2873-5]

Hazardous Waste Management System; Recycled Used Oil Standards

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: Section 3014 of RCRA, as amended, requires EPA to establish standards for used oil that is recycled, or "recycled oil." Pursuant to this directive, EPA is today proposing standards for generators and transporters of recycled oil, and owners and operators of used oil recycling facilities. The standards would include tracking requirements when used oil is shipped off-site for recycling, and facility management requirements when used oil is stored prior to recycling. Recycled oil used as fuel would be subject to certain regulations, except that fuel meeting a specification for toxic contaminants and flashpoint would be exempt from regulation. Uses of recycled oil that constitute disposal would be regulated as land disposal, but road oiling would be prohibited outright.

This proposal is closely related to the proposed listing of used oil as a hazardous waste, also in today's Federal Register. The rules proposed today for used oil that is recycled would only apply to used oil covered by the listing. (except that household generated used oil would also be regulated when aggregated or accumulated for recycling).

DATES: EPA will accept public comments on this proposal until January 28, 1986. Public hearings will be held to obtain public comments on this proposal and the proposal to list used oil as a hazardous waste (appearing elsewhere in this Federal Register) on January 8, 10, and 16 of 1986. The locations for the public hearings are provided below; for additional information on the public hearings, see Part Four, Section III of this preamble.

ADDRESSES: EPA will hold public hearings at the following locations:

- *January 8, 1986*—Holiday Inn, North Park Plaza, 10650 North Central Expressway, Dallas, Texas 75231 (Phone: 214/373-6000)
- *January 10, 1986*—Ramada Renaissance, 55 Cyril Magnin Street (One block north of 5th & Market), San Francisco, California 94102 (Phone: 415/392-8000)
- *January 16, 1986*—Department of Health and Human Services, North Auditorium ("C"

Street entrance), 330 Independence Ave., SW, Washington, DC 20201

Comments on this proposal should be mailed to the Docket Clerk (Docket No. 3014, Standards of Recycled Oil), Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. Comments received by EPA may be inspected in Room S-212, U.S. EPA, 401 M Street, SW., Washington, DC, from 9:00 a.m. to 4:00 p.m. Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: The RCRA Hotline, call toll free at (800) 424-9346 or at (202) 382-3000. For technical information, contact Michael Petruska, Environmental Protection Specialist, Waste Management and Economics Division, Office of Solid Waste, (WH-565A), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. Telephone: (202) 382-7917. Single copies of the proposal may be obtained by calling the RCRA Hotline at the number above.

SUPPLEMENTARY INFORMATION:

Overview

This preamble discussion is organized into four major Parts. Part One summarizes the legal authority for today's proposal, explains how this proposal follows from previous EPA rulemakings, and includes a statement as to the general policy EPA has followed in developing today's proposal. Part Two goes through the proposed rules section-by-section. For each section, the provision is explained and the rationale for the provision is presented. Part Three summarizes the impacts of this proposal, if adopted as proposed today, on State hazardous waste programs, on the used oil recycling industry, on the economy in general, and on small businesses. Part Four includes a general request for public comment on this proposal, lists the titles and where applicable the NTIS number of the major background documents used by EPA in developing the proposal, and provides information on the upcoming public hearings.

Note.—This proposal is one of three regulatory actions being taken this month by EPA concerning used oil. In today's issue of the Federal Register, this proposal for recycled oil is accompanied by a separate proposal to list used oil as a hazardous waste. Further, EPA has promulgated in final form its "Phase I" rules for the burning and blending of used oil (and hazardous waste) fuels. [Proposed January 11, 1985 at 50 FR 1684.] At this writing, it appears likely that the final Phase I rule will appear in the same Federal Register as the proposals for recycled oil and for listing used oil as hazardous waste. For that reason, this preamble refers

to the final Phase I rule as having been "recently promulgated," but does not refer to Federal Register pages in the citations.

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PART ONE—INTRODUCTION AND BACKGROUND

I. Legal Authority

A. General

Subtitle C of the Resource Conservation and Recovery Act (RCRA or "the Act") as amended by the Hazardous and Solid Waste Amendments of 1984, requires EPA to identify wastes that may pose a substantial hazard to human health or the environment, and to regulate hazardous waste from initial generation through end disposition.

The Congress, in passing the Used Oil Recycling Act of 1980 (Pub. L. 96-483), and the Hazardous and Solid Waste Amendments of 1984 ("the 1984 Amendments"), supplemented the basic requirements for regulation of hazardous waste with certain special requirements for used oil. These requirements are found in section 3014 of the Act.¹ Section 3014(a) retains the language of section 7(a) of the Used Oil Recycling Act:

... The Administrator shall promulgate regulations . . . as may be necessary to protect the public health and the environment from hazards associated with recycled oil. In developing such regulations, the Administrator shall conduct an analysis of the economic impact of the regulations on the oil recycling industry. The Administrator shall ensure that such regulations do not discourage the recovery or recycling of used oil.

Section 242 of the 1984 Amendments also added the following phrase to the above paragraph, "consistent with the protection of human health and the environment," to make it clear that protection is of prime concern under section 3014, and that certain recycling practices may indeed be discouraged by regulation if necessary to ensure an adequate level of protection. [See H.R. Conf. Rep. No. 1133, 98th Cong., 2d Sess. 114 (1984).]

B. Listing as Hazardous Waste

Section 3014(b) requires the Administrator to propose whether to list or identify used crankcase oil as a hazardous waste under section 3001 of RCRA by November 8, 1985. A final determination as to listing all used oils is required a year later. As explained in detail in the Federal Register notice accompanying this one, EPA is proposing that used oil be listed as a hazardous waste under section 3001 of the Act.

¹ Prior to the 1984 Amendments, the used oil requirements were found in section 3012 of the Act.

C. Generation and Transportation Prior to Recycling

Section 3014(c) provides special guidance to EPA for promulgation of regulations pertaining to generation and transportation of used oil identified or listed as hazardous waste that is recycled. First, section 3014(c)(1) states that standards promulgated under sections 3001(d) and 3002 of RCRA for generators (including generators of between 100 and 1000 kilograms of hazardous waste per month), and 3003 for transporters of hazardous waste shall not apply to used oil that is recycled. Section 3014(c)(2) requires EPA, by November 8, 1986, to:

... promulgate such standards regarding the generation and transportation of used oil which is recycled as may be necessary to protect human health and the environment.

This directive is qualified by the following additional guidance in section 3014(c)(2):

(1) EPA must consider, in promulgating regulations for generators, impacts on "environmentally acceptable types of used oil recycling," and on "small quantity generators" and "generators" which are small businesses."

(2) Under certain conditions explained in detail below in this preamble, EPA must not impose manifest requirements for shipments of used oil sent for recycling.

Section 3014(c)(3) requires that any transporter rules promulgated by EPA (for used oil identified or listed as a hazardous waste being taken to recyclers) include, as a minimum, the requirement that the transporter deliver the oil to a facility permitted under section 3005 of RCRA to manage hazardous waste or (as described below) permitted by rule under section 3014(d) to recycle used oil.

EPA has developed the regulations for generators and transporters with the presumption that the existing hazardous waste regulations should apply, except as section 3014(c) provides otherwise. The basis for this presumption is that even though recycled oil is exempt from sections 3001(d), 3002, and 3003 [because of the more specific requirements of section 3014(c)], the ultimate standard in section 3014(c) is to protect human health and the environment, *i.e.*, the same standard as applies under sections 3001(d)–3003.

D. Facility Standards and Permitting for Recyclers

Section 3014(d) of the Act provides that the owner or operator of a facility which recycles used oil identified or

listed as a hazardous waste is "deemed to have a [RCRA] permit" for all such treatment or recycling (and any associated tank or container storage), provided that the owner or operator complies with the section 3004 standards promulgated by EPA for hazardous waste facilities. EPA is authorized to permit oil recycling facilities individually when deemed necessary to protect human health or the environment.

II. Preceding Rulemakings

The following summarizes, for the reader's convenience, previous EPA proposals concerning used oil. Persons who submitted comments pursuant to any of these proposals should, if they wish for EPA to consider the comments, re-submit them at this time. [Due to the time that has passed since these proposals appeared in the Federal Register and the new supporting data available for today's proposal, EPA will not consider comments previously submitted without re-submission.]

A. December 18, 1978, Proposal

On December 18, 1978, EPA proposed regulations to protect human health and the environment from the improper management of hazardous waste (see 43 FR 58946-59028). The proposed regulations included: (1) Criteria for identifying and listing hazardous wastes, and a hazardous waste list; (2) standards applicable to generators and transporters of hazardous waste to ensure proper recordkeeping, reporting, labeling, containerization, and use of a transport manifest for these wastes; and (3) performance, operating, and design standards applicable to persons who treat, store, or dispose of hazardous waste. In the proposed rules, EPA would have listed all used oils as hazardous waste.

The proposed rules contained special provisions which exempted from regulation most recycled hazardous wastes. However, there were two exceptions from this exemption which affected used oil. First, if the material being recycled was reused beneficially in a manner that constitutes disposal and was either a listed hazardous waste or exhibited any of a set of characteristics (i.e., ignitability, corrosivity, reactivity, or Extraction Procedure (EP) toxicity), the material was subject to the hazardous waste regulations. This provision would have subjected to the hazardous waste rules most used oil applied to the land (e.g., used oil used as road oil, dust suppressant, pesticide carrier, etc.). The second exclusion affecting used oil dealt with the reuse of certain oils as fuel.

Specifically, the regulations stated that waste lubricating, waste hydraulic, waste transmission fluid, and waste cutting oils when burned or incinerated as a fuel would also be subject to the hazardous waste regulations.

B. The May 19, 1980 Rules

On May 19, 1980, EPA issued final hazardous waste rules for many of the regulations it proposed in 1978. However, the Agency deferred the listing of used oil as a hazardous waste, pending development of standards specific to the transportation, treatment, storage, disposal, and recycling of used oil. [See 45 FR 33094-33095.] Under the May 19 rules, used oil is a hazardous waste only if it exhibits one or more of the characteristics of hazardous waste: Ignitability, corrosivity, reactivity, or EP toxicity (see 40 CFR Part 261, Subpart C). The rules also indicated, however, that only listed hazardous wastes and hazardous sludges would be subject to the hazardous waste rules when recycled. The net effect of these deferrals and exemptions was to subject to the hazardous waste rules only used oil that both exhibits one or more of the above characteristics and is not recycled (i.e., is disposed of). Because relatively little used oil meets both of these conditions, most used oil was not brought under the control of the federal hazardous waste program by the May 19 rules.²

C. Final "Solid Waste" Rule

On January 4, 1985, EPA promulgated a final rule to amend its existing definition of "solid waste" used in regulations implementing Subtitle C of RCRA. Among other things, this rule dealt with the question of which materials are solid and hazardous wastes when they are recycled; this rule also specified general and specific standards for various types of hazardous waste recycling activities. See 50 FR 614-668. The final solid waste rule is relevant with respect to today's proposal because, as explained below, EPA presumes that except as section

² On March 16, 1983, EPA published enforcement guidance to help implement the May 19, 1980 rules. [See 48 FR 11157-11160.] The Agency memorandum that was published provided guidance in determining when a waste being burned was legitimately a "fuel," and so exempt from regulations vs. when a waste is being burned for destruction (disposal), and so subject to the hazardous waste incineration rules in 40 CFR Parts 264 and 265, Subpart O. This is relevant for used oil because used oil is sometimes used to mask the disposal of hazardous spent chlorinated solvents. As explained at 48 FR 11159-11160, mixtures of spent hazardous chlorinated solvents and used oils are generally subject to the hazardous waste rules when burned, unless each spent solvent in the mixture has significant energy value (as-generated).

3014 provides otherwise, the existing hazardous waste standards apply. The requirements for recycled hazardous waste (termed "recyclable material") in 40 CFR 261.6, then, are used as a starting point in the determination as to what requirements should apply to recycled oil.

D. Burning and Blending Rules

Section 3004 (q), (r), and (s) of RCRA require EPA to establish regulations for hazardous waste burned for energy recovery by November 8, 1986. Since section 3014(d) of RCRA provides that recycled oil must be managed under the section 3004 standards, EPA has undertaken an effort to regulate hazardous waste and recycled oil fuels simultaneously. [The legislative history of the "burning and blending" amendments states that such an approach was expected. See H.R. Rep. No. 98-198, 98th Cong., 1st Sess., at 39 (1983).]

On January 11, 1985, EPA proposes "Phase I" of its rules for burning and blending of hazardous wastes and used oil. [See 50 FR 1684-1723.] The rules, as recently promulgated in final form, require that anyone burning or producing a fuel made from used oil notify EPA of their waste-as-fuel activities. The rule also establishes the following fuel specification for used oil fuel.

TABLE 1.—USED OIL FUEL SPECIFICATION

Constituent/property	Allowable level
Arsenic	5 ppm maximum.
Cadmium	2 ppm maximum.
Chromium	10 ppm maximum.
Lead	100 ppm maximum.
Flashpoint	100 °F minimum.
Halogens	4,000 ppm maximum.

Persons producing used oil fuel meeting this specification may market the fuel to any burner or to another processor, provided that he can document that the fuel meets the specification and he complies with certain recordkeeping provisions.³ Persons producing fuel not meeting the specification are allowed to market the "off-specification" fuel only to owners and operators of industrial boilers and furnaces who have complied with the notification requirement (and certain other administrative requirements) described above. Shipments of "off specification" fuel have to be accompanied by an invoice bearing a

³ Burners or processors who receive only specification fuel are not subject to any of the Phase I requirements.

notice that the fuel is subject to EPA regulations.

The Phase I rule is an interim measure. The rules proposed today, and the "Phase II" burning and blending rules (scheduled for proposal early next year) would incorporate parts of and otherwise expand the Phase I rule to cover activities besides burning and blending. Today's proposal would alter the scope or form of some of the final Phase I rules, and these proposed changes are discussed below.

E. New Tank Storage Requirements

EPA's basic storage rules were promulgated on January 12, 1981 at 46 FR 2802-2897. On June 26, 1985 EPA proposed revisions to the tank portion of the storage rules [50 FR 26444-26504]; the Agency cited as its basis for the proposal certain deficiencies in the current rules. [Id. at 26447-48.] These proposed requirements are relevant with respect to today's proposal for recycled oil because:

- As described above and in more detail in later sections of the preamble, the general hazardous waste rules are the proper starting point in determining what requirements should apply to recycled oil; and
- Tank storage is the predominant storage method throughout the used oil recycling industry.

Therefore, changes in the hazardous waste storage regulations will have significant impacts on how EPA regulates used oil storage.

As described in Section III, Part Three of this preamble ("regulatory impacts" section) and in the *Regulatory Impacts Analysis* for this proposal (Chapters V.A. and V.B. in particular), the storage portions of today's proposal account for a large portion of the total costs of the rules, but only a relatively small fraction of the risk reduction or benefits we expect to achieve. This is partly because of the great uncertainty inherent in trying to accurately quantify the many factors that determine the risk posed by various storage methods. [See the *Background Document* for the *Regulatory Impacts Analysis* for a discussion of uncertainties in the analysis.] Nonetheless, other parts of the proposal appear to achieve greater benefits compared to associated compliance costs than do the storage sections.

EPA has considered whether the proposed storage rules could be made more cost-effective. We have, however, only limited flexibility concerning the level of regulation we impose. First, RCRA section 3014 requires that, in general, used oil recycling facilities are

to be regulated the same as hazardous waste facilities under section 3004.⁴ The recently proposed revisions to the hazardous waste tank standards [50 FR 26444-26504; June 26, 1985] would make the rules more stringent; the cost of these new requirements are included in the cost and regulatory impact studies accompanying today's proposal and in fact account for much of the total costs of today's proposal. We are currently considering comments received on the June 26 proposal, and should we determine that requirements less costly than we proposed are adequate for hazardous waste facilities, the rules for used oil recyclers would be revised accordingly. Also, the Agency specifically solicits comments on whether storage standards for used oil can be based on the interrelationship between engineering, location, and waste-related factors. EPA requested comment on this type of approach for all tank storage situations on June 26 [see 50 FR 26452, "alternative regulatory strategy number 2."]. We indicated that we have some administrative concerns with this type of approach [Id]; but we remain interested in the possibility of tailoring requirements to match controls with hazard-related factors.

Second, under the special RCRA section 3014(c) authority, EPA has today proposed a special, reduced set of storage standards for recycled oil generators to minimize adverse small business and recycling impacts. We believe that today's proposal accomplishes the section 3014(c) goal of protecting human health and the environment without causing significant adverse impacts on generators. We request comment on whether the proposal strikes the appropriate balance between ensuring protectiveness and minimizing adverse impacts on recycled oil generators. Further, the reader will note that in Section II.B. of Part Two of this preamble, we solicit comments on certain alternatives suggested by the public pursuant to the June 26 proposal; we will consider these suggestions and any submitted per today's proposal to determine whether sufficient protection can be achieved in ways less costly than we propose today.⁵

⁴ Section 3014(c) exempts recycled oil from RCRA sections 3001(d) through 3003, but not from Section 3004. The House Report [H.R. Conf. Rep. No. 1133, 98th Cong., 2d Sess. 114 (1984)] states that this was to ensure that used oil recycling facilities would be regulated under the same substantive standards as other hazardous waste facilities.

⁵ After seeing today's proposal, persons who submitted comments per the June 26 proposal may wish to revise and re-submit comments concerning used oil tank regulations.

III. EPA's Proposed Policy for Regulating Used Oil That Is Recycled

EPA's proposed policy and rationale for regulating used oil that is recycled is as follows:

- Used oil meets the criteria established in 40 CFR Part 261 for listing a waste as hazardous;
- Certain hazardous waste recycling activities have been found to pose hazards and, therefore, need to be regulated; and
- Absent special considerations, i.e., the special requirements of section 3014, used oil that is hazardous and that is recycled requires the same level of regulation as other recycled hazardous wastes.

The Agency's basis and rationale for listing used oil as a hazardous waste is discussed in detail in the Federal Register notice that accompanies this one. The next Part of this preamble discusses the requirements proposed for used oil that is recycled. The reader should note that an underlying premise throughout the discussion to follow is the last point above; that is, absent special considerations in Section 3014 (and accompanying legislative history), recycled used oil is to be regulated as are other recycled hazardous wastes. And as a final point, EPA has determined that used oil mixed with other hazardous waste should not be eligible for the special Section 3014 standards, but rather should be regulated under the existing hazardous waste rules.⁶ This is discussed in more detail in the next Part of the preamble, as are means the Agency intends to use in distinguishing between used oil and used oil/hazardous waste mixtures.

PART TWO—DETAILED DISCUSSION OF CONTROLS PROPOSED FOR USED OIL THAT IS RECYCLED

I. Applicability and Scope of Part 266, Subpart E

Under today's proposal, the standards for used oil that is recycled would be placed in 40 CFR Part 266, Subpart E.⁷ This section explains the applicability and scope of Part 266, Subpart E.

A. Definition of "recycled oil"

Section 1004(37) of the Act defines "recycled oil" as:

⁶ This policy would alter the regulatory requirements for certain mixtures from the requirements recently promulgated in the final Phase I burning and blending rule; the reasons for these proposed policy changes are explained in the next Part of the preamble.

⁷ The term "used oil" is defined and discussed fully in the Federal Register notice accompanying this one i.e., the used oil listing proposal.

... any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes oil which is re-refined, reclaimed, burned, or reprocessed."

EPA is proposing a regulatory definition (40 CFR §260.10) for "recycled oil" as follows:

"Recycled oil" means used oil that is either burned for energy recovery, used to produce a fuel, reclaimed (including used oil that is reprocessed or re-refined), or otherwise recycled, or that is collected, accumulated, stored, transported, or treated prior to recycling.

(1) [Reserved to define specific types of burning considered to be recycling.]

(2) The term includes mixtures of recycled oil and other material, but not mixtures containing hazardous waste (other than used oil). Used oil containing more than 1000 ppm of total halogens is presumed to be mixed with chlorinated hazardous waste listed in Part 261, subpart D of this Chapter. Persons may rebut this presumption by demonstrating that the used oil has not been mixed with hazardous waste. EPA will not presume mixing has occurred if the used oil does not contain significant concentrations of chlorinated hazardous constituents listed in Appendix VIII of Part 261 of this chapter.

1. *Scope of activities:* The statutory and regulatory definitions are similar in terms of the generic used oil recycling activities they include. Used oil that is either re-refined or "reprocessed" is within the scope of the definition. We have used the broad term "reclaimed" to cover all processing or treatment activities where usable materials such as fuels or lubricants are recovered from used oil. ["Reclamation" is the term used in the hazardous waste regulations to describe such activities. See § 261.1(c)(4) and 50 FR 633-634; January 4, 1985.] Burning used oil for energy recovery is also within the scope of the proposed definition. EPA has reserved "paragraph (1)" in the definition to define the specific types of burning that will be considered recycling. In the hazardous waste rules, EPA has used a tripartite division to classify combustion units: incinerators, boilers, industrial furnaces. [50 FR 625-628; January 4, 1985.] Hazardous waste with significant energy (Btu) value, as defined in enforcement guidance published March 16, 1983 at 48 FR 11157-11160, is considered to be recycled when burned in a boiler or industrial furnace (or used to produce a fuel bound for such burning). [See 50 FR 629-633; January 4, 1985.] EPA will be reconsidering this classification scheme with respect to used oil in the Phase II burning proposal, due early next year, because used oil is often burned in devices that do not neatly fit into any of the above three categories (e.g., diesel engines and space

heaters) and because used oil may often be burned as a legitimate supplementary fuel in solid and hazardous waste incinerators. Until we can reconsider this policy, the general policy (described above) established for hazardous waste would apply.

Finally, EPA considers used oil that is being managed (e.g., collected, stored) prior to recycling to fall within the scope of "recycled oil." EPA has applied this general principle to hazardous wastes being recycled [see 50 FR 650-651; January 4, 1985], and we believe Congress intended a similarly broad coverage for the term "recycled oil."

2. *Mixtures.* Used oil is often mixed or blended with other materials during collection, storage, or processing. EPA's policy concerning used oil mixtures is contained in the proposed "paragraph (2)" of the recycled oil definition and in certain conforming amendments to Part 261, discussed below. The most important issue with respect to classifying mixtures for regulatory purposes under today's proposal is whether or not the material(s) being mixed with the used oil is a hazardous waste.

a. *Mixing with materials that are not hazardous waste:* When recycled oil is mixed with any material that is not a hazardous waste, e.g., virgin fuel oil, the resultant mixture is considered a recycled oil. Following the general "mixture rule" policy established for hazardous waste (see § 261.3(a)(2)(iv) and (c)), mixtures remain subject to regulation unless and until specifically excluded.* [Although the most common situation covered by this policy would be blending of used oil with virgin fuel oil, mixtures of recycled oil and non-hazardous wastes, or with spill control materials, would also be considered recycled oil.]

b. *Mixing with hazardous waste:* Congress, as evidenced by legislative history surrounding Section 3014, is quite concerned about the problems caused by mixing of hazardous wastes with used oil. [See generally H.R. Rep. No. 98-1415, 96th Cong. 2d Sess., at 4-5,

* As evidence of Congress's intent for a broad reading of the term, note that section 3014(c) includes special requirements for generators and transporters of recycled oil. Obviously, Congress intends for EPA to consider used oil to be "recycled oil" from the time it is generated and stored or accumulated.

* The reader should note that EPA has proposed (in the listing proposal accompanying this rule) to amend § 261.3(a)(2)(iv) to exclude wastewater containing *de minimus* amounts of used oil and certain oily wipers from regulation as hazardous waste. Also, as will be discussed below, recycled oil fuel meeting EPA's specifications would also be exempt (such fuel would often be a mixture of used oil and virgin oil).

(1980), and H.R. Rep. No. 98-198, 98th Cong., 1st Sess., at 64-67 (1983).] EPA first dealt with the used oil/hazardous waste mixture problem in the Phase I burning and blending proposal. [50 FR 1691-1692; January 11, 1985.] At that time, and in the recently promulgated final Phase I rule, EPA (citing discretion granted by Congress concerning how such mixtures should be regulated) established that certain mixtures are to be regulated under the used oil fuel rules while others are regulated as hazardous waste. [Id.] EPA also explained, however, that the classification scheme in the Phase I rule is only intended as an interim regime, to be revisited in today's proposed rulemaking (particularly with respect to mixtures of used oil and small quantity generator hazardous waste). [Id.] Today, as explained in detail below, *EPA is proposing that any mixture of used oil and hazardous waste is to be fully regulated as hazardous waste.* This is a central principle of the proposed recycled oil rules, and is based on the following rationale:

- EPA's proposed rules for recycled oil were developed to control hazards associated with recycled oil as a result of hazardous constituents normally found in used oil. When hazardous wastes are mixed with used oil, the nature and severity of hazards posed can be changed and are not necessarily controlled by the proposed recycled oil rules;

- The policy is simple to understand and implement. EPA is concerned that if certain hazardous wastes could be mixed with used oil and others could not be, both industry and enforcement officials would be confused and would have to spend a great deal of time trying to determine what kind of waste was mixed, etc., and

- EPA reasons that Congress intended for used oil recyclers, who would benefit from special provisions in Section 3014 discussed below, to be involved in legitimate processing and upgrading of used oil to recover or produce high quality petroleum products. Blending and mixing of hazardous waste with used oil would not normally improve or upgrade the used oil and in fact may accomplish the opposite. [For example, chlorinated solvents, which are often detected in used oil, have Btu value less than used oil and also make used oil more difficult to re-refine.]

What follows are discussions of the various mixtures covered by the proposed policy and then a discussion of the Agency's main mechanism to be used to detect mixing, the "rebuttable presumption." Comments are requested

on the general policy and rationale described above, as well as the specific aspects of the policy discussed next. [See proposed §§ 261.5(j), 261.6(a)(2)(iii), and 266.40(d), as well as the §260.10 definitions of "recycled oil," for the regulatory language that would implement this proposed mixture policy.]

(1) Listed hazardous waste from large quantity generators. When used oil is mixed with a waste that is listed in Part 261, Subpart D and generated by a "large quantity" generator (i.e., a generator not subject to the special requirements of §261.5), the mixture should be regulated as hazardous waste, not recycled oil.¹⁰ Such hazardous wastes (and associated mixtures) were already regulated when Section 3014 was passed, and we see no indication that Section 3014 was meant to reduce regulatory requirements that already apply to those wastes.¹¹

(2) Characteristic waste from large quantity generators. Under the final Phase I burning rule, used oil mixed with a waste hazardous only because it exhibits one of the characteristics of 40 CFR 261.21-261.24 is regulated as hazardous waste *only* when the resultant mixture continues to exhibit one of the characteristics; otherwise, the mixture is regulated as used oil. [In the preamble of the final Phase I rule, see Part Two, Section IV.B.3.] This policy is merely a re-statement of § 261.3(a)(2)(iii), which applies to all mixtures of "characteristic only" hazardous waste and non-hazardous wastes. The proposed listing of used oil as hazardous waste changes this situation completely, i.e., §261.3(a)(2)(iii) no longer applies. EPA is today proposing that mixtures of used oil and characteristic-only hazardous waste be regulated as hazardous waste (not as recycled oil) regardless of whether the resultant mixture exhibits any of the characteristics. The Agency believes that this is a proper approach for the reasons outlined above and particularly because the addition of characteristic hazardous waste to used oil may change

the nature of used oil (by adding unusual constituents or properties) and create hazards not adequately addressed by the recycled oil rules, e.g., reactivity.

A related point concerning hazardous characteristics and used oil is that under the final Phase I rule and today's proposal a used oil exhibiting one of the characteristics of §§ 261.21-261.24 but that has *not* been mixed with other hazardous waste would be (when recycled) regulated as recycled oil, not hazardous waste. For example, some used oil has a flashpoint below 140 °F and so is ignitable hazardous waste; we would not presume, however, that the low flashpoint indicates mixing. [See the discussion of this issue with respect to used oil fuels at 50 FR 1692-1693 and 1699-1700; January 11, 1985, and in the preamble of the final Phase I rule in Part Two, Section IV.B.3.] If, however, EPA found that used oil being recycled at a particular facility exhibited some characteristic not known to be typically associated with used oil (e.g., corrosivity, reactivity, or E.P. toxicity for a metal such as mercury), we might well begin an investigation to determine whether hazardous waste was being illicitly mixed with used oil.

(3) Hazardous waste from small quantity generators. Under § 261.5, EPA exempts hazardous waste from generators of less than 1000 kilograms per calendar month of hazardous waste from most of the Subtitle C requirements, provided that the § 261.5 conditions are complied with.¹² Under § 261.5, hazardous waste may be recycled without regulatory controls and may be mixed with used oils. In the Phase I burning and blending proposal, EPA requested comment on various approaches for controlling mixtures of used oil fuel and (the normally exempt) § 261.5 hazardous waste. [50 FR 1692; January 11, 1985.] In the recently promulgated final Phase I rule, we decided to regulate the mixtures as used oil fuel (not under the full set of hazardous waste rules) as an *interim measure*, pending today's proposal. [In the final Phase I preamble, see Part Two, Section IV.B.2.]

Today, we are proposing that mixtures of used oil and § 261.5 hazardous waste be *fully regulated as hazardous waste* when recycled. [See proposed § 261.5(j)(2)(ii).] We have determined, for the following reasons,

¹⁰ As noted above, EPA has proposed to lower the exclusion limit from 1000 to 100 kilograms of hazardous waste per calendar month. This discussion would apply to any hazardous waste exempted under § 261.5, regardless of the quantity limit ultimately promulgated.

that this full level of regulation is necessary to provide adequate control over these mixtures:

- Small quantity generators' hazardous waste may impart unusual constituents and properties to used oil, creating hazards not addressed by the recycled oil rules;

- Congress indicated very strong concerns over adulteration of used oil during collection and transportation "... Used oil is often heavily adulterated before it reaches a recycling facility, and much of his adulteration results from haphazard mixing during transit. This provision of the bill (i.e., section 3014) expressly gives the Agency authority to address these situations." [See H.R. Rep. No. 98-198, 98th Cong., 1st Sess., at 67 (1983).]

- EPA studies have documented that in fact used oil is adulterated after leaving generators' sites.¹³ Since so many used oil generators are "small quantity" generators under § 261.5,¹⁴ regulation of small quantity hazardous waste is necessary to effectively control adulteration; and

- As will be discussed below, the Agency's main enforcement mechanism to detect when mixing has occurred will be the "rebuttable presumption," i.e., a total halogen measurement. The rebuttable presumption only indicates when mixing has occurred; it cannot distinguish which types of generators contributed hazardous waste to the mixture. Enforcement and industry officials would be faced with uncertainty and confusion if small quantity generator hazardous waste could be legally added to recycled oil, while other hazardous waste could not be.

(4) The "rebuttable presumption" of mixing. In the final Phase I burning rule, EPA established that used oil fuel containing in excess of 1000 ppm of total halogens would be presumed to be mixed with chlorinated hazardous waste. [In the preamble of the final Phase I rule, see Part Two, Section IV.B.1.] Today, we are proposing to use this same indicator (and the same "rebuttal" procedures) to detect mixing

¹³ See the report *Composition and Management of Used Oil Generated in the U.S.*, U.S. EPA, November 1984, Section 3.4.3.1. Samples taken from processors are much more contaminated with solvents than samples taken directly from generators.

¹⁴ An estimated 82,500 Vehicle maintenance shops, for example, generate on average 50 kilograms per calendar of hazardous waste (not counting used oil), i.e., mostly spent solvents. See the draft *Regulatory Impacts Analysis for Proposal Regulations for Small Quantity Generators of Hazardous Waste*, February 1985, Exhibits 3-1 and 3-3.

¹⁰ The reader should note that on August 1, 1985, per section 3001(d) of RCRA, EPA proposed to amend § 261.5 to provide that only generators of less than 100 kilograms of hazardous waste per calendar month would be exempt as "small quantity generators." [See 50 FR 31288.]

¹¹ At one time, EPA was reluctant to classify any used oil from the automotive service industry as hazardous waste regulated outside the scope of Section 3014 because that might render the legislation meaningless. [See 50 FR 1691-1692, footnotes 16 and 24 in particular; January 11, 1985.] As discussed in the final Phase I rule, however, we are now convinced that mixing by automotive generators is quite rare, and so the above-mentioned concern was unfounded. [In the final Phase I rule preamble, see Part Two, Section IV.B.2.]

in any recycled oil, not just used oil being used as fuel. [See proposed §§ 261.6(a)(2)(iii) and 266.40(d), as well as the proposed definition of "recycled oil."] EPA believes extension of this indicator to all used oils is appropriate because the data and analyses used to develop the presumption were based on samples of all types of recycled oils, not just used oil being used as fuels. That is, the basic premise of the presumption—used oil that contains more than 1000 ppm total halogens has been mixed with one or more hazardous chlorinated solvents—holds for all used oils.¹⁵

As discussed in the final Phase I burning rule, persons may rebut the presumption by demonstrating to enforcement officials that the used oil does not contain "significant levels" of hazardous chlorinated constituents identified in Appendix VIII of Part 261.¹⁶ [See the final Phase I preamble, Part Two, Section IV.B.1.] EPA is today proposing that this same rebuttal procedure would apply to all used oils found to contain more than 1000 ppm total halogens. EPA believes the procedures are appropriate for all used oils because the question of what constitutes a "significant level" of a hazardous constituent (with respect to indicating whether mixing has occurred) is independent of the recycling method. That is, when individual hazardous solvents are present at very low levels (such as less than 100 ppm), it is difficult or impossible to pinpoint the source of contamination and mixing with a hazardous waste cannot be presumed. [Id.] Higher levels of individual hazardous solvents (such as 100–1000 ppm), may or may not indicate mixing, depending on circumstances specific to individual cases. [Id.] Again, these factors would seem to apply to all used oils, not just oil fuels, and this supports our proposal to extend the rebuttable presumption (and rebuttal procedures) to all used oils covered by today's proposal, not just used oil fuels.

In summary, EPA is proposing a mixture policy for used oil as follows:

- Mixtures of recycled oil and non-hazardous wastes or virgin materials would be regulated as recycled oil; but
- Mixtures of used oil and any hazardous waste, including hazardous waste from § 261.5 small quantity hazardous waste generators, would be fully regulated as hazardous waste, not as recycled oil. The Agency's main enforcement mechanism would be the rebuttable presumption, which uses total halogens as an indicator of mixing but which also allows for case-by-case rebuttals.

Comments are requested on today's proposed mixtures policies.

B. Recycled Oil Subject to Part 266, Subpart E

1. *General.* The requirements for recycled oil are proposed in Part 266, Subpart E. The "applicability" section of Part 266, Subpart E identifies those recycled oils that would be subject to the Subpart. [See the proposed § 266.40(a)(1).] First, the Subpart would apply to recycled oil that is hazardous waste.¹⁷ Second, the Subpart would apply to household-generated recycled oil when aggregated at a collection center. Third, the Subpart would apply to recycled oil recovered from wastewater. The latter two points are discussed next.

2. *Household waste, when aggregated.* When EPA made final many of its hazardous waste rules on May 19, 1980, "household wastes" were specifically excluded from being hazardous wastes. [See 40 CFR 261.4(a)(1).] EPA concluded [see 45 FR 33098–33099], based on the legislative history of RCRA, that Subtitle C was not intended to control the management of household refuse, garbage, etc. However, in light of the subsequent enactment of the Used Oil Recycling Act in October 1980, and the more detailed provisions of Section 3014 enacted in November 1984, EPA is proposing to modify this exemption to provide that recycled oil that is household waste would be subject to Part 266, Subpart E, but only when aggregated or accumulated at "do-it-yourselfer" collection centers such as service stations, auto centers, etc. [See the proposed § 266.40(a)(1)(ii).] EPA is proposing this special approach for recycled oil because:

(1) Section 3014(a) directs EPA to control the hazards of recycled oil

regardless of its origin;

(2) A substantial portion of all of the used oil that is generated in the U.S. each year comes from homeowners;¹⁹ and

(3) This homeowner-generated used oil is almost entirely automotive oil. EPA has a great deal of data showing that used automotive oil is contaminated with hazardous constituents.²⁰ This oil is collected and recycled along with other automotive oils, and we must presume it poses similar hazards.

Since the household-generated oil presents similar hazards, we are proposing that it be subject to Part 266, Subpart E which aggregated at collection centers.

EPA is not proposing that homeowners themselves be regulated under the rules proposed today. We are proposing that household waste/recycled oil lose its exempt status where aggregated or accumulated for recycling. EPA recognizes that improper practices by homeowners themselves can also pose environmental problems.²¹ The Agency does not believe, however, that Congress envisaged Section 3014 applying directly to homeowners. EPA specifically requests comment on non-regulatory means that might be used to encourage homeowners to take their used oil to collection centers. For example, would it be helpful to State agencies in this field if EPA were to publish a document summarizing various educational and informational programs currently in use in the U.S. (and perhaps abroad) to address this problem and the relative successes or problems encountered with the programs? Are there other roles EPA could adopt to aid State agencies in

¹⁵The reader should note that some recycled oils (under the statutory definition) are not solid and hazardous wastes under today's proposal. Under § 261.2 materials that have been reclaimed and that are then used as commercial products (but not as a fuel and not in a manner constituting disposal) are not solid wastes, and so are not hazardous wastes. Examples of recycled oils that are not solid nor hazardous wastes are reclaimed oils that are not solid nor hazardous wastes are reclaimed lubricants and asphalt roofing material containing recycled oil. The reader should further note that under §§ 260.30 and 260.31, EPA may grant requests for variances from a material's being classified as a solid waste, and under §§ 260.20 and 260.22, from a solid waste's being classified as a hazardous waste.

¹⁶*Composition and Management of Used Oil Generated in the U.S.*, by Franklin Associates, Ltd., November 1984; p. 1–4. Approximately 200 million gallons of used oil are generated by "do-it-yourselfers," e.g., homeowners, of the total of 1.2 billion gallons generated each year.

¹⁷Id., p. 3–27.

¹⁸A study for the U.S. Department of Energy, *Analysis of Potential Used Oil Recovery from Individuals*, by Market Facts, Inc., July 1981, found that 40% of homeowners poured their used oil on the ground, while another 21% placed it in the trash. Only 14% took the oil to a center for recycling. See page 42.

¹⁹As discussed in the final Phase I rule, EPA recognizes that metalworking oils and re-refinery "light ends" may contain high levels of halogens but have not been mixed. [In the preamble of the final Phase I rule, see Part Two, Section IV.B.1.] Persons managing these oils can rebut the presumption under the procedures described in the final Phase I rule [Id.], summarized in this section of this preamble.

²⁰As also discussed in the final Phase I rule, if a re-refiner can show that the incoming used oil does not exceed 1000 ppm halogens, the presumption would not apply to light ends produced at the refinery. [See the final Phase I preamble, Part Two, Section IV.C.2.a.] That is, the Agency recognizes that certain processes concentrate low boiling point materials in a light end stream, and the presumption was not developed for this type of recycled oil.

²¹Today's proposal would amend § 261.6(a)(2)(iii) to provide that recycled oil would be not subject to the full set of regulations that normally apply to recycled hazardous wastes [i.e., 40 CFR Parts 262–265.] but rather would be subject to Part 266, Subpart E. As explained in the rest of this part of the preamble, Part 266, Subpart E would incorporate some, but not all, of the requirements in the existing hazardous waste regulations.

addressing to "do-it-yourselfer" problem?

3. *Oil recovered from wastewater.* In the listing proposal elsewhere in today's Federal Register, EPA proposes to amend the § 261.3 "mixture rule" to exclude from the definition of hazardous waste oily wastewaters containing *de minimus* amounts of used lubricating, hydraulic, or transformer oils from machine drippings, line spillage, etc.²² [See proposed § 261.3(a)(2)(iv)(F).] In order to recover the oil (or to comply with Clean Water Act discharge limits) most industrial facilities treat oily wastewater to separate some portion of the oil. Used oil recovered from wastewater is likely to contain hazardous constituents at levels comparable to other used oils, and therefore to pose similar hazards when managed (or mismanaged). For this reason, EPA has proposed to limit the scope of the exclusion so that used oil recovered from wastewaters remains a hazardous waste.²³ If this used oil is recovered for recycling or reuse, it would be recycled oil subject to Part 268, Subpart E. A person who recovers oil from exempt wastewater containing used oil (for recycling) would be a "generator," subject to either § 268.40(c) or § 268.41 of today's proposal. To make this point clear, we have proposed § 268.40(a)(1)(iii).

C. Conditional Exemptions for Certain Recycled Oils

EPA has determined that certain types of recycled oil should be exempt from further regulation when specified conditions are met. [The proposed § 268.40(a)(2) identifies the recycled oils eligible for the exemption and the proposed § 268.40(b) contains the conditions.]

1. *Specification fuel.* Recently, EPA made final (the final "Phase I" burning rule) a specification for fuels made from used oils. [See Table 1, above, and in the preamble of the final Phase I rule, see the discussion in Part Two, Section IV.C.] Fuels meeting this specification would be exempt from the Phase I burning rule's notification and tracking requirements and its prohibition on burning used oils in non-industrial boilers. [Id.] EPA is today proposing to simply carry forward the exemption for specification fuel. Based on the following rationale, we can see no need

to impose regulations on specification fuel, or to add any new parameters to the specification. Comments are requested on the discussion that follows.

a. *Rationale for exemption:* EPA believes that fuel meeting the specification would pose hazards not significantly greater than virgin fuel oil during handling and when burned and that therefore regulation of the used oil would not accomplish any environmental purpose. [Id.]²⁴ The specification levels for three of the constituents, arsenic, cadmium, and chromium, were, in fact, selected to be equivalent to virgin fuel oil levels.²⁵ The specification selected for lead was 100 ppm. This is about ten times greater than lead levels found in virgin fuel oils, but as we explained in the final Phase I rule, the 100 ppm level is intended only as interim measure. When EPA proposes its Phase II burning rules early next year, we will re-visit the lead specification for used oil fuels and we may well establish a more stringent level. In the meantime, we do not think it appropriate to regulate fuels meeting the 100 ppm specification.²⁶

²⁴ The reader should note that EPA considers the fuel specification to constitute a standard under 3004(r) for hazardous waste fuels. The specification is issued under the joint authorities of sections 3014 and 3004(r), and as provided by section 3004(r), supersedes the otherwise applicable labeling requirement. The specification limits the composition and associated hazards of recycled oil fuel, and therefore, it in itself fulfills the informational and warning functions of the label.

²⁵ Also, the proposed flashpoint specification, a minimum of 100 °F is the same as allowed under ASTM specifications for commercial ("number 2") fuel oils. Further, the Phase I preamble explained that we did not propose specifications for certain constituents (such as benzene and toluene) in part because levels in used oil are likely to be equivalent to levels found in virgin fuel oils. [See the final Phase I preamble, part Two, Section IV.C.3.]

²⁶ A preliminary assessment of storage hazards of used oil containing lead indicates that even with a specification of 100 ppm, serious hazards from leaks are unlikely. A computer simulation of some 9000 storage situations was conducted where lead was assumed to be released to the environment. [See the *Background Document for the Regulatory Impact Analysis*, EPA Office of Solid Waste, November 1985, Chapter IV.G.] Of the 9000 simulations, only 28 exceeded the lead standard of 0.05 mg/l promulgated under the Safe Drinking Water Act, i.e., less than 1 percent of the cases. [This analysis is conservative in that many of the cases simulated assumed a lead content higher than the final specification of 100 ppm.] The reader should note that EPA is continuing to improve its methods for assessing storage risks, and preliminary results presented here are simply the best information currently available. Should new and better information be developed in the future, we may reconsider the storage risks posed by specification fuel.

The reader may also note that in the final Phase-I rule EPA declined to set specification levels for certain toxic constituents. However, the parameters for which levels are not established were either found to be present in used oils at levels comparable to virgin fuel oil (and so would pose hazards no greater than virgin fuel oils when handled prior to burning) or the constituents just are not very toxic. Our conclusions concerning the need for a specification limit for individual parameters were of course based primarily on hazards posed by inhalation; we have considered whether specifications should be established for some parameters of low inhalation toxicity based on potential storage hazards. A parameter worthy of this special additional consideration is barium. Ten percent of the used oil analyses reviewed by EPA showed barium levels at or above 250 ppm.²⁷ While this is about 100 times greater than levels found in virgin fuel oil, the reader should note that it is only two and one-half times greater than the E.P. toxicity level of 100 ppm. [§ 261.24(b), Table 1, i.e., "D005."] Given that the E.P. is intended for leachate analysis and that it is very unlikely that all of the barium would leach from the oily matrix, we do not expect used oil to exhibit E.O. toxicity for barium.²⁸ To more directly assess the potential for groundwater contamination by improper used oil storage, EPA evaluated numerous storage scenarios.²⁹ In all of the various scenarios evaluated, the predicted groundwater concentration of barium was below 1 milligram per liter, the standard established by EPA under the Safe Drinking Water Act. Therefore we do not expect significant hazards to be posed by used oil high in barium, even if stored improperly, and we have not proposed any new specification for barium.

²⁷ See the report *Composition and Management of Used Oil Generated in the U.S.*, U.S. EPA, November 1984, p. 1-12. The data base included 752 samples analyzed for barium; 89% of the samples contained detectable levels of barium.

²⁸ Also, barium is an additive used in formulation of automotive engine oil. It seems unlikely, given that automotive oils contain a variety of contaminants regulated by the specification, that used oil would meet the specification but yet still have high barium levels. *Ibid* at pp. 3-6 to 3-10 and p. 3-27.

²⁹ See the *Background Document for the Regulatory Impact Analysis*, EPA Office of Solid Waste, November 1985, Chapter IV.G. As discussed above for lead, this analysis included a computer simulation of some 9000 storage situations. Although only preliminary analysis, it seems unlikely that used oil can pose serious storage hazards because of its barium content.

²² "De minimus," as used in this context, is defined in the listing proposal elsewhere in today's Federal Register.

²³ The reader should note that this discussion only applies to wastewater contaminated with used oil. For example, wastewaters from petroleum refineries also contain recoverable oil, but do not necessarily contain used oil.

Finally, under the approach proposed today where used oil with over 1000 ppm total halogens is presumed to be mixed with hazardous waste, the reader may note that it is conceivable for specification fuel to contain up to 1000 ppm of a hazardous spent solvent and yet not "trigger" the rebuttable presumption. EPA was concerned that such levels of solvents, although not hazardous with respect to burning, could pose groundwater hazards if used oil was stored improperly. We therefore conducted a storage assessment for used oil containing various spent solvents, i.e., as we did for barium.³⁰ The individual solvent posing the highest risk level was found to be tetrachloroethene, with a mean or average cancer risk level of 7×10^{-6} , or 7 cancers per 1 million exposed population. Risk levels this high can be considered significant, but EPA notes that some 98% of the scenarios evaluated had risk levels lower than this. Additionally, the storage scenarios evaluated here concerned all used oils, while specification fuel is a special subset of used oil because, by regulatory definition, it must contain low concentrations of several toxic contaminants. We expect that specification fuel, because it will often be produced by treatment or blending, will typically contain solvent levels far below 1000 ppm; in fact, it is likely that specification fuel will often contain less than 100 ppm of any solvent.³¹ Used oil containing such low levels of solvents would pose risks about one order of magnitude lower than the levels discussed above, i.e., the risk of cancer would generally be less than 1 per 1 million exposed population. Such low risk levels do not appear to warrant additional controls, and we are therefore proposing no specification levels for individual solvents.

In summary, we are proposing no changes to the specification and no additional requirements for the management of specification fuel because we do not see the need for additional controls. Comments on this proposed policy are requested.

b. Conditions for the exemption.
Persons producing specification fuel

³⁰ Id. We assessed risks posed by used oil containing three common de-greasing solvents: tetrachloroethene; 1,1,1-trichloroethane; and trichloroethene.

³¹ For example, see the report *Composition and Management of Used Oil Generated in the U.S.* EPA, November 1984, p. 5-15. Concentrations for various constituents are projected for used oil blended at a 10% ratio with virgin fuel oil. The average concentration of tetrachloroethene here is 221 ppm; and 80% of the projected cases would contain no more than 170 ppm of that solvent.

would be, under today's proposal, subject to § 266.40(b)(1). The fuel producer would have to document through analysis that the oil meets the specifications, and that it is used as fuel. To document the latter point, the person would have to keep records of the name and address of the receiving facility, the quantity of oil shipped, the date of shipment, and a cross-reference to the oil analyses performed. These requirements are carried forward from the final Phase I burning rule. [They are currently in § 266.43(b)(6); today's proposal would move the requirements to § 266.40(b)(1).]

Documentation that the fuel in fact meets the specification would normally entail analysis. Sampling and analytical procedures are part of a facility's permitting requirements discussed in later sections of this preamble.³² Of particular relevance here, the person producing specification fuel would have to have a plan at his facility specifying the sampling and analysis procedures to be used in documenting that the oil meets the specification. Records of sales, use, or shipment would have to be kept at the facility as well. Of course, EPA reserves the right to inspect facilities producing specification fuel, to take samples of the oil, and if necessary, to check to ensure that the product produced is actually being burned or is entering the commercial fuel oil market.³³

c. Diesel crankcase oil: As a final point concerning the production of specification fuel, EPA requests comment on whether it is necessary to require a different kind of documentation (or any documentation at all) than described above for those generators that blend used diesel crankcase oil with diesel fuel for use in their own vehicles. The data available to EPA (Table 2) suggest that used diesel engine crankcase oils are quite low in contaminants as-generated. Given our limited data base, commenters are invited to submit additional data to confirm or refute this conclusion.

³² As stated above, recycled oil remains subject to Part 266, Subpart E, in its entirety until § 266.40(b) is fully complied with. In particular, § 266.43(b), discussed below, includes certain sampling and analysis requirements for persons producing specification fuel.

³³ The burden for determining and documenting that certain recycled oil should be exempt as specification fuel falls on the person claiming the exemption. When recycled oil is burned, sent off-site, or otherwise managed, it is subject to regulation under Part 266, Subpart E, absent documentation as discussed above. This proposal would incorporate the analysis requirements into the general analytical requirements for used oil recycling facilities of proposed § 266.43(b).

TABLE 2..CONCENTRATIONS OF TOXIC METALS IN USED DIESEL ENGINE CRANKCASE OILS

Metal	Number of samples		Concentration range (ppm)		
	Analyzed	Contaminant detected	Low	Median	High
Arsenic.....	5	1	<5.0	<5.0	5.9
Cadmium.....	5	3	<0.5	0.9	1.4
Chromium.....	5	5	0.9	1.5	3.8
Lead ¹	5	4	<5.0	13.0	78.0

¹ Some "diesel" samples may actually be contaminated with small amounts of gasoline engine crankcase oil, accounting for the presence of lead.

Source: *Composition and Management of Used Oil Generated in the U.S.*, by Franklin Associates, Ltd., November 1984, p. 3-38.

EPA is also aware that manufacturers of diesel engines generally recommend that diesel crankcase oil be blended into diesel fuel at a maximum rate of 5% (i.e., a 19-1 virgin fuel to recycled oil dilution).³⁴ Since diesel fuel is itself typically low in toxic metals,³⁵ a 19-1 dilution would seem to ensure the resultant blended fuel would meet the proposed specification (even if the limit for lead was ultimately set as low as 10 ppm). Should EPA, then, specifically state in the regulation that analysis is not necessary when diesel crankcase oil is blended by generators at or below 5% to produce diesel fuel?

2. Asphalt paving material. EPA is proposing that asphalt paving material containing certain types of recycled oil be exempt when certain conditions are met. [See the proposed § 266.40(a)(2)(ii) and § 266.40(b)(2).] EPA is basing the proposed exemption on § 266.20(b) of the existing hazardous waste regulations, which provides:-

Products produced for the general public's use that are used in a manner constituting disposal and that contain recyclable materials (i.e., hazardous waste) are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means.

As discussed on January 4, 1985, EPA asserts jurisdiction over these materials but has deferred regulation pending studies of how the materials are appropriately regulated. [See 50 FR 627-629 and 646-647.] EPA has determined that asphalt paving material containing either of the two following types of

³⁴ See, for example, the bulletins by: *Caterpillar*, September 1974. *Racor*, undated, *International Harvester*, February 1974 (I-H recommended up to 6.5%).

³⁵ See the report, *Composition and Management of Used Oil Generated in the U.S.*, by Franklin Associates, Ltd., November 1984, p. 5-10. Diesel fuel is essentially "Number 2" or "distillate fuel."

recycle oil³⁶ meet the criteria of § 266.20(b) and therefore are presently exempt from regulation:

- Residues (bottoms) from distillation re-refining; or
- Air pollution control residue from fabric filters (i.e., baghouse dust) where used oil is burned as a fuel.

EPA is currently studying the practice of incorporating these materials into asphalt. Preliminary results indicate that the recycled oils described here substitute for virgin materials in asphalt production (i.e., they add desired properties to the paving material) and that at least the bottoms are typically purchased by asphalt producers at prices near those of their nonwaste ("virgin") counterparts.³⁷ Therefore, we conclude that the incorporation of these materials into asphalt is a legitimate recycling practice and not merely a disposal method for the residues.

EPA is currently assessing the environmental hazards that may be associated with these asphalt products to determine what kinds of controls, if any, may be necessary.³⁸ Eventually, EPA might establish standards pertaining to amounts of recycled oil that could be in asphalt paving material (e.g., a maximum percentage), or we might require some form of leaching test (similar to the Extraction Procedure in 40 CFR 261.21 and Part 261, Appendix II) as a demonstration that no adverse effects are likely. For example, we might exempt asphalt of which the residues constitute less than 3% (by weight or volume)—this appears to represent current industry practice—while the use of asphalt containing greater than this amount might be regulated as land disposal or subject to some type of leach testing. Under today's rule, however, the person producing the asphalt product (and claiming the exemption) would only have to maintain adequate documentation that the recycled oil is being treated so that it is an inseparable part of the asphalt product³⁹ [See 50 FR

646-7; January 4, 1985, for a discussion of these terms. Most asphalt products, we expect, would qualify for the exemption.]

Comments and information are requested on the hazards and need for controls for asphalt products containing recycled oils. As a final point on this subject, we have been unable to identify any other recycled oils that meet the § 266.20(b) criterion for exemption. Therefore, when other recycled oils besides the residues and asphalt mixtures described above are placed on the ground, the product would be subject to regulation (discussed below). Comments are requested on whether any other recycled oils meet the § 266.20(b) criterion discussed above, and that therefore should be included in the proposed § 266.40(a)(2)(ii).

D. Overview of Standards and "Burden of Proof" Issues

Sections II, III, and IV of this Part of the preamble explain the requirements for generators, transporters, and owners and operators of facilities that manage recycled oil. In general:

- A person who generates or accumulates up to 1000 kilograms per month would be subject to § 266.40(c) but to no other requirements in the Subpart;
- A person who generates (in a month) or accumulates over 1000 kilograms of recycled oil would be subject to § 266.41;
- A person who initiates an off-site shipment would be subject to § 266.41(d);
- A person who transports recycled oil would be subject to § 266.42;
- An owner or operator of a facility that recycles or stores recycled oil would be subject to § 266.43;
- A person who burns recycled oil would be subject to § 266.44; and
- A person who applies or places recycled oil (or a product containing recycled oil) on the ground would be subject to § 266.23.

As explained above and in the next sections of the preamble, certain recycled oils are exempt from regulation and persons who otherwise fit into a regulatory category may be exempt from some generally applicable requirements.⁴⁰ The person claiming

such an exemption is responsible for providing documentation that the exemption applies, otherwise, EPA presumes the rules apply. This is consistent with the § 261.2(f) provisions for recycled hazardous waste and merely re-states a well-established legal principle. [See 50 FR 642-643, January 4, 1985, for a full discussion of the principle and cases where the principle was upheld.]

E. Authorization to Manage Recycled Oil

As with any hazardous waste, recycled oil must be managed at an "authorized" facility.⁴¹ We are using "authorized" as a term of convenience to include any of the following [see proposed § 266.40(e)(3)]:

- A facility permitted to manage hazardous waste under Part 270, Subpart A-E;⁴² or
- A facility permitted to manage hazardous waste by a State with an EPA-approved hazardous waste program;⁴³ or
- A facility meeting the special permit-by-rule requirements proposed today for used oil recycling facilities (see proposed § 270.60(d)); or
- A facility in interim status, as defined by Section 3005(e) of RCRA and the requirements of Part 270, Subpart G.⁴⁴

F. Definitions and General Provisions

Terms used in proposed Part 266, Subpart E have the same meanings as provided in § 260.10 and §§ 261.1-261.3 of the hazardous waste rules. Also, the requirements of Part 260 pertaining to availability and confidentiality of information, use of number and gender, references, and rulemaking petitions apply throughout Part 266, Subpart E. [See proposed § 266.40(e).]

⁴¹ As explained in Section I.B. above, specification fuel and asphalt containing certain recycled oil residues are exempt under § 266.40(a)(2), provided that the conditions of § 266.40(b) are complied with. No authorization is necessary to manage recycled oil exempted under these provisions.

⁴² The reader should note that a facility that has already been permitted under Part 270, Subparts A-E can only manage a newly-listed hazardous waste through a permit modification under §§ 124.5 and 270.41.

⁴³ See 40 CFR Part 271 (and Section I of Part Three of this preamble) concerning EPA approval of State hazardous waste programs.

⁴⁴ An interim status facility may only accept a newly-listed hazardous waste under the provision of § 270.72, pertaining to changes during interim status.

³⁶ Both materials discussed here are residues from treating used oils. As discussed in the Federal Register notice that accompanies this one (the listing proposal), residues derived from used oils are considered used oils. And as discussed above in this preamble, used oils (not mixed with hazardous waste) that are recycled are recycled oils.

³⁷ See the draft report by Research Triangle Institute, *Used Oil Recycling Evaluation: Incorporation of Residues into Asphalt and Asphalt-Containing Products*, June 1985, pages 24-29.

³⁸ Id. Samples of the recycled oils are being analyzed to measure concentrations of hazardous constituents (40 CFR Part 261, Appendix VIII) present, and how those concentrations compare to the virgin materials they replace. Extraction testing for toxic metals is also being conducted.

³⁹ The person incorporating the bottoms or baghouse dust into the asphalt would be subject to

§ 266.43 of today's proposal, the standards for used oil recycling facilities, discussed later in this preamble.

⁴⁰ A person may also fall into more than one regulatory category. In this case, the person is subject to more than one set of requirements.

II. Standards for Generators of Recycled Oil

A "generator" is "... any person, by site, whose act or process produces hazardous waste ... or whose act first causes a hazardous waste to become subject to regulation." [See § 260.10.] In the case of used oil, generators include:

- Service stations, auto repair shops, and other establishments that service vehicles or that accept oil from ("do-it-yourselfer") households;
- Maintenance garages that service vehicle fleets;
- Mine and construction operators where vehicles are serviced in the field; and
- Industrial facilities such as metalworking shops, steel mills, etc., that use oils to cut, grind, or work with metal or that remove spent hydraulic fluids or greases from machinery.

These are generators of *recycled oil* when they recycle the used oil themselves, or accumulate it for shipment to an off-site recycler.

Section 3014(c)(2)(A) requires EPA to regulate generators of recycled oil "... as may be necessary to protect human health and the environment." In promulgating these regulations, EPA is directed to take into account the effects of regulations on:

- Environmentally acceptable types of used oil recycling;
- Small quantity generators; and
- Generators which are small businesses.⁴⁶

The requirements proposed today were developed using as a starting point the general standards for hazardous waste generators issued under Section 3002 of RCRA. Those requirements were, however, modified to take into account the special Section 3014 mandate. A major similarity between the approach proposed today and the approach used by EPA to regulate other generators of hazardous waste is to distinguish between the classes of generators by the amount of waste they generate. The discussion that follows first centers on "small quantity recycled oil generators" subject to special, limited standards and then on other (large) generators of recycled oil, who would be subject to more extensive requirements.

A. Small Quantity Recycled Oil Generators.

EPA is proposing a limited set of requirements for generators of up to 1000 kilograms (about 300 gallons) of

recycled oil per month.⁴⁷ [See the proposed § 266.40(c).] The requirements would include:⁴⁸

- A prohibition on road oiling;
- Standards pertaining to installation of storage tanks; and
- A provision that states that if more than 1000 kilograms is accumulated, the generator moves into the next "generator" category for regulatory purposes.

Generators in the less than 1000 kilogram category are termed "small quantity recycled oil generators."

The remainder of this section explains the requirements that would apply; the proposal that a separate small quantity limit be established for recycled oil; the rationale for the 1000 kilogram limit; and the proposed policy under which recycled oil from these generators would be subject to more extensive regulation when collected.

[For the reader's convenience, the discussion below notes similarities and differences between §§ 266.40(c) and 261.5. The reader should not confuse the § 266.40(c) regulatory category with § 261.5, which includes special requirements for hazardous waste generated by "small quantity generators." The two regulatory categories are similar in that the generators in each category are subject to only minimal requirements; but there are important differences, including different quantity cut-offs and the regulatory status of waste once it leaves the generator's site.]

1. *Requirements.*⁴⁹ Generators of no more than 1000 kilograms per month of recycled oil would be exempt from full regulation under the proposed Part 266, Subpart E, provided that the generator either sends the oil off-site for recycling or recycles it himself under the following requirements:

a. *On-site management:* (1) Road oiling is prohibited. Section 3004(1) of RCRA prohibits the use of hazardous waste as a dust suppressant. [See 50 FR 28718; July 15, 1985.] No exemption is provided for small quantity generators; the prohibition would become effective the day the final rule listing used oil as a hazardous waste becomes effective.

(2) *Proper installation of tank systems.* EPA is incorporating into these

⁴⁶ Used oil accepted from households ("do-it-yourselfer" oil) would be counted in this determination.

⁴⁷ Eventually, requirements for on-site burning may also be promulgated, but as discussed below this issue is to be addressed in the Phase II burning and blending proposal later this year.

⁴⁸ The requirements discussed here are proposed in § 266.40(c). The requirements are very similar, but not identical to the requirements of § 261.5 (f) and (g) for small quantity generators of hazardous waste.

regulations, under the authority of section 3014, tank installation requirements similar to those required by section 9003(g) or RCRA, the latter termed the "interim prohibition." Section 9003(g) prohibits any person from installing an "underground storage tank" [as that term is defined in section 9001(1)] unless the tank and connected piping satisfy certain requirements, including that they prevent releases due to corrosion or structural failure for the operational life of the tank and that the lining or construction of the tank and piping be compatible with the substance being stored.⁵⁰

Congress established this interim prohibition as the minimum requirement for underground petroleum tanks installed after May 7, 1985 until EPA can develop standards as mandated by section 9003(e) of RCRA. EPA believes that since the provisions of Subtitle I apply to "petroleum" (see section 9001(2) of RCRA) and used oil is a subset of petroleum. Congress intended for the provisions of Subtitle I (including the interim prohibition) to apply to used oil to provide a baseline level of control for used oil storage. Where the specific recycled oil provisions of section 3014 result in regulations more stringent than provided by Subtitle I, we presume that Congress intended for the more stringent requirements to apply.

EPA is proposing tank installation requirements that amount to a modified version of the Subtitle I interim prohibition in the small quantity generator provisions of today's rule for two reasons. First, since the interim prohibition is a minimum standard already required by Subtitle I, its inclusion in this rule puts used oil generators on notice of already applicable requirements. [This purpose is less important with respect to other parties subject to today's proposal because they generally would face requirements more stringent than the interim prohibition. As stated above, in such a case the more stringent requirement applies.] Second, EPA believes that the tank installation requirements proposed today provide a level of control that reflects the section 3014 mandate to protect human health and the environment, considering the impacts of regulation on recycled oil generators.

Finally, the reader should note that the tank installation requirements we

⁵⁰ Section 9003(g) does provide a limited exception for the corrosion protection requirements for tanks installed at sites where soil resistivity is 12,000 ohm-cm or more. [These requirements are codified in 40 CFR 280.1 and 280.2. See 50 FR 28734-35; July 15, 1985.]

⁴⁹ Section 3014(c)(2)(B) contains specific directions on how off-site shipments are to be regulated. This is discussed below.

are proposing today for small quantity recycled oil generators, although based in substance on the interim prohibition, would apply to a broader range of tanks than would be the case under section 9003(g). The broader applicability of today's proposal is brought about because instead of using the term "underground storage tank" to define coverage of the provision [defined in section 9001(1) and § 280.1], we have proposed to use the broader term "tank system."⁵⁰

We intend for § 286.40(c)(1)(iv) to apply to all tank systems, i.e., "above-ground," "inground," and "underground." [Id.] EPA believes this broader coverage, corresponding to the scope of Subtitle C, is called for by Section 3014. That is, Section 3014 directs EPA to regulate the hazards associated with recycled oil, and recycled oil is stored in all types of tanks.⁵¹

Comments are requested on EPA's proposed approach for regulating small quantity recycled oil generators' tanks, described above. As a final note on the subject, as EPA develops controls for underground storage tanks under Subtitle I, we will consider whether additional controls should be applied to small quantity recycled oil generators' tanks.

(3) *Accumulation of over 1000 kilograms.* If at any time a generator accumulates over 1000 kilograms of recycled oil, he would be subject to the more extensive generator requirements discussed later in this section of the preamble.⁵² The reader should note, however, that recycled oil that is mixed with nonhazardous waste would continue to be subject to the limited requirements discussed here even if the 1000 kilogram limit is exceeded (as long as the recycled oil portion of the mixture does not exceed 1000 kilograms).⁵³ [See

the proposed § 286.40(c)(3).] The rationale here is that the limits proposed are meant to apply to recycled oil and the mixing of recycled oil with non-hazardous waste does not change the quantity of, or the hazard associated with, recycled oil involved.⁵⁴

(4) *On-site burning.* The reader will note that EPA has reserved a paragraph in proposed § 286.40(c)(1) for controls on on-site burning. For the most part, this burning involves use of used oil space heaters by service stations or blending of diesel crankcase oil into vehicles' diesel fuel. The former case has been addressed on an interim basis under the final Phase I burning and blending rule [See Part Three, Section IV of the final Phase I preamble.] As we said in that final rule, we will re-visit the need for controls on these units in the Phase II burning rules. [Id.] Any requirements for space heaters would eventually be codified in § 286.40(c)(1). At a *minimum*, we intend to ensure that space heater flue gases are properly vented. The case of diesel blending was discussed in an earlier section of this preamble pertaining to specification fuel. As described in that section, the data available to EPA indicate that this kind of blending produces specification fuel, and we are considering what type of documentation if any should be required. Comments are requested on what documentation, if any, should apply to small quantity recycled oil generators who blend diesel crankcase oil into their own diesel-fueled vehicles.

b. *Shipments off-site:* Small quantity recycled oil generators would be allowed to send recycled oil off-site for recycling without any formal tracking or recordkeeping requirements.⁵⁵ [The reader should note that, as is discussed later in this Section and then below in Section III, E. 2., transporters who collect from small quantity recycled oil generators must keep records of pickups and must ensure delivery to an authorized used oil recycling facility.]

2. *The separate small quantity limit for recycled oil.* Under today's proposal, recycled oil would have its own "small quantity" limit of 1000 kilograms per month; that is, recycled oil counting against the recycled oil limit would *not* also count against the § 261.5 limit for

hazardous waste.^{56, 57} Therefore, under our proposed approach, a generator could be subject to the "small quantity" provisions of both 40 CFR 261.5 and 286.40(c), or subject to one of the provisions but not the other one. EPA believes this approach offers the following benefits:

(1) Impacts on small quantity generators and generators who are small businesses would be reduced. Without the separate small quantity generator limits for recycled oil and other hazardous wastes, a generator of, for example, small amounts of spent hazardous solvents could have to manage his solvents under the 40 CFR Part 262 standards for hazardous waste generators because of the recycled oil he generates. This seems inappropriate because, as discussed in this Federal Register notice, EPA is proposing to regulate recycled oil under a special set of Part 286 standards, not the general hazardous waste standards. It also would have the effect of subjecting perhaps tens of thousands of generators of recycled oil to the hazardous waste rules (for the small quantities of other hazardous waste they generate). As described throughout this section of the preamble, EPA is attempting to minimize the adverse impacts of regulation on small quantity generators and generators who are small businesses.

(2) Segregation of wastes would be encouraged, and this facilitates recycling. The separate small quantity limits should provide an incentive for generators to segregate used oil from other hazardous wastes they generate because, as described above, mixtures of used oil and hazardous waste would be subject to full regulation as a hazardous waste, not the special "recycled oil" standards.⁵⁸ Segregation of used oil away from other hazardous waste facilitates used oil recycling. In particular, when used oil is contaminated with chlorinated solvents, the resulting mixture:

- Has a reduced BTU content and correspondingly reduced fuel value; and

⁵⁰ Congress envisaged the possibility of such an approach, as evidenced by the legislative history of Section 3014.

⁵¹ See proposed §§ 261.6(a)(2)(iii), § 261.5(c) and § 261.5(j)(2)(i), where recycled oil is exempted from counting towards the § 261.5 quantity limit for determining "small quantity generator" status under the hazardous waste rules.

⁵² That is, a generator who segregates his hazardous waste from his used oil might remain a small quantity generator under § 261.5, while a generator who mixes wastes would thereby lose his small quantity generator status and become subject to the Part 262 hazardous waste generator standards for the entire mixture. [See proposed § 261.5(j)(2).]

⁵³ As proposed on June 26, 1985, a "tank system" is comprised of a tank(s) and its ancillary equipment (e.g., pipes, valves) [See 50 FR 26455]. The section 9001(1) definition of "underground storage tank" also includes ancillary equipment such as pipes, but only applies when 10% or more of the system is beneath ground surface.

⁵⁴ The reader should also note that Subtitle I includes certain special exemptions [sections 9006(d) and (e)] for residential/farm motor fuel tanks and heating oil tanks. These exemptions are not relevant for Subtitle C, and we have not proposed any such exemptions today for recycled oil. Although we are today proposing to regulate certain recycled oil tanks, described above, that are not presently regulated under the section 9003(g) interim prohibition, we note that the extent of regulation (in most cases some form of corrosion protection) would cause insignificant cost impacts, typically in the range of \$200 per affected generator. [See the EPA report, *Estimated Costs of Compliance with Proposed RCRA Regulations for Hazardous Waste Storage, Treatment, and Accumulation Tank Facilities* (March 1985), for a cost estimate of corrosion protection.]

⁵⁵ A similar provision applies to hazardous waste small quantity generators. See § 261.5(f).

⁵⁶ A similar provision applies to hazardous waste small quantity generators. See § 261.5(h).

⁵⁷ As described above, a mixture of used oil and hazardous waste is *not* recycled oil, and would not be subject to the requirements discussed here. Such a mixture would be subject to regulation as hazardous waste. [See proposed §§ 261.5(j)(2)(ii), 261.6(a)(2)(iii), and 286.40(d).]

⁵⁸ We have not proposed any time limit to accompany the 1000 kilogram accumulation limit. A time limit seems unnecessary since used oil is typically picked-up frequently by collectors. H.R. Rep. No. 96-196, 96th Cong., 1st Sess., at 67 (1983.)

• Is difficult to reuse as a lubricant because the solvent reduces viscosity (i.e., "thins" the oil).⁵⁰

(3) The separate small quantity limits proposed today would encourage environmentally acceptable types of recycling of used oils vs. disposal. This is one of the factors EPA is directed to consider in regulating recycled oil generators. Used oil, when disposed of, would count against the § 261.5 limit along with a generator's other hazardous waste. [See proposed § 261.5(j)(1).] A generator who recycles his used oil, therefore, would be eligible for the special, reduced requirements for small quantity recycled oil generators while one who disposes of his oil would be subject to the Part 262 hazardous waste generator standards. [For example, a generator of 500 kilograms of used oil who sends the oil to land disposal would exceed the § 261.5(a) limit and would therefore become subject to Part 262; however, if that generator recycled the oil, he would be covered only by proposed § 266.40(c).]

EPA requests comment on the separate small quantity limit approach described above. Do the separate limits cause undue confusion that might negate the benefits identified?

3. *Selection of 1000 kilogram as the limit.* EPA has proposed a 1000 kilogram monthly generation limit⁵¹ to define a "small quantity recycled oil generator." [See the proposed § 266.40(c).] As Table 3 illustrates, this limit would bring the majority of the recycled oil generated within today's proposed regulatory system, while most generators would be small quantity recycled oil generators and thus exempt from the more burdensome elements of that system. Before deciding to propose the 1000 kilogram limit, EPA considered limits that would be both more and less stringent. EPA requests comment on the range of options discussed below:

a. *100 kilogram limit:* EPA considered a small quantity limit of 100 kilograms, i.e., the same limit proposed on August 1, 1985 for hazardous waste in general. [50 FR 31278.] This would establish regulatory control over the great majority of the used oil generated starting at the site of generation [see Table 3]. As noted above, however, Section 3014 of RCRA specifically directs EPA to consider the impact of its regulations on small quantity

generators, and small businesses, and on environmentally acceptable means of recycling. Under a 100 kilogram limit, at least 274,000 generators would be subject to regulation. EPA is concerned not only with the unwieldy size of this universe, but also with the potential impacts of regulation on the small establishments within the universe. The great majority of used oil generators are small businesses,⁵² operated in large part by individuals without the technical knowledge or financial resources necessary to operate a waste

management facility of any sophistication. Also, since these establishments do not generate large amounts of recycled oil, regulatory requirements can impose disproportionate costs, i.e., high costs per gallon. The Agency's main concern with these small establishments is to ensure: (1) That they collect the used oil generated at their sites for recycling and not let it drain into sewers or otherwise dispose of it; and (2) that they continue to accept household-generated used oil.

TABLE 3.—NUMBER OF USED OIL GENERATORS AND QUANTITIES OF USED OIL GENERATED ANNUALLY

	Number of establishments	Size categories (kilograms generated per month)		
		<100	100-1,000	>1,000
Industrial	358,000	258,000	78,100	24,300
Non-Industrial	295,000	121,000	150,000	24,000
Total	653,000	379,000	228,100	48,300
Quantities generated (millions of gallons per year) by size category:				
Industrial	456	22.5	84	350
Non-Industrial	488	24.2	300	164
Total	944	46.7	384	514

Source: These estimates were derived from the draft report, *Characterization of Industrial Used Oil Generators*, by Franklin Associates, Ltd., (October 22, 1984), and the memorandum from Temple, Barker, and Sloane (August 8, 1984) titled "Numbers of Industrial Generators."

Notes:

1. These estimates do not include 167 million gallons of used oil disposed of each year by "do-it-yourselfer" oil changers, i.e., homeowners.
2. Additionally, an estimated 2.6 million farms generate some 44 million gallons of "non-industrial" (automotive) oil each year. These establishments would fall in the "<100" category.
3. The "non-industrial" category includes automotive service establishments, while "industrial" includes metalworking shops, steel mills, and various other industrial concerns.

EPA considered regulating recycled oil generators of 100-1000 kilograms per month (kg/mo) under the set of requirements proposed on August 1, 1985 for hazardous waste generators of 100-1000 kg/mo. [See 50 FR 31278-31306. The proposal would amend the § 262.34 requirements.] As explained in that proposal, we developed the proposed standards for the 100-1000 kg/mo hazardous waste generators taking into account their predominantly small business nature. [Ibid at 31284-86.] EPA is concerned, however, that even though the August 1 proposal would minimize adverse small business impacts, the requirements would still adversely affect used oil recycling. [Under section 3014(c) of RCRA, EPA must, when developing rules for recycled oil generators, not only take small business impacts into account but also impacts on "environmentally acceptable recycling." EPA considers any increase in "do-it-yourselfer" oil changes to be, in itself, and adverse impact on recycling because this group traditionally disposes of its used oil. Sewer disposal

to avoid regulations is another adverse impact on recycling that concerns EPA, as is any reluctance by establishments to accept household generated ("do-it-yourselfer") used oil.]

We estimate the rules proposed on August 1 would impose annualized costs of \$1000-2000, on average, if applied to generators of recycled oil.⁵³ For a generator of, for example, 110 kilograms of used oil per month, this would mean costs of about \$4.80 per gallon of recycled oil generated (and stored). Further, EPA is considering whether any tank system secondary containment standards should apply to generators of 100-1000 kg of hazardous waste per month. [Ibid at 31288-87.] The addition of secondary containment requirements could double the costs presented above.⁵⁴ Given that recycled oil

⁵⁰ Unless otherwise noted, the results presented here are from the *Regulatory Impact Analysis* US EPA, Office of Solid Waste, November 1985, Chapter V.

⁵¹ As points of clarification, the term "secondary containment" as used in today's proposal refers to the requirements proposed on June 28, 1985 for hazardous waste tank systems. (See 50 FR 26462-26482, and the proposed §§ 264.193 and 265.193.) These requirements are more extensive than, for example, the curbing and diking required for some

Continued

⁵² Re-refiners must remove the "light ends" (solvents and other low boiling point materials) during processing, reducing the yield of the lubricant production operation.

⁵³ As described above, the monthly generation limit would be accompanied by a total accumulation limit of 1000 kilograms.

⁵⁴ See the *Regulatory Impact Analysis for the Used Oil Rules*, EPA Office of Solid Waste, November 1985, pages V-54 through V-57.

generators are presently paid only 10-40 cents per gallon for their used oil, costs this high would make used oil more of a burden than a recyclable resource. It is difficult to quantitatively assess how generators would respond to regulatory costs this high, but our studies show the following to be probable outcomes:

- Price increases in oil-change services offered to the public. These price increases (we estimate an increase of 10 percent) could lead to an increase in "do-it-yourselfer" oil changes of approximately 12 million gallons per year (an increase of 4 percent);

- A reluctance of service stations and auto repair shops to accept "do-it-yourselfer"-generated used oil; and

- Increased sewage disposal by generators in areas without strict local requirements or sewer discharges.

These are the sorts of outcomes that concerned Congress when it was considering the issue of recycled oil regulation. See, for example, H.R. Rep. No. 98-198, 98th Cong., 1st Sess., at 66 (1983):

Many used oil generators, such as service stations, will be reluctant to collect and recycle used oil if it means incurring excessive regulatory responsibilities. Any regulatory scheme for generators should . . . be structured to avoid this result . . .

For these reasons, EPA sees a clear need to establish a small quantity limit higher than 100 kilograms. A higher limit would minimize the impacts of regulation on the smallest establishments in the generator universe, and most importantly, would reduce adverse impacts on environmentally acceptable types of used oil recycling.

b. **2000 kilogram limit:** EPA considered a limit for small quantity recycled oil generators as high as 2000 kilograms per month (about 600 gallons). We believe a limit this high would exempt from full regulation most, if not all, of the automotive-related establishments. However, we are concerned that a limit this high would not be adequately protective. The same legislative history as cited above concerning the need to minimize impacts on generators goes on to say that EPA's regulations should:

. . . encourage . . . generators to send used oil to facilities having permits. [And to] . . . regulate generators in a way that discourages unacceptable used oil recycling practices, such as unsafe storage, or potentially hazardous burning or land application. [Id.]

oil storage areas under EPA's Spill Prevention Control and Countermeasure rules at 40 CFR Part 112.

** As explained below, oil from small quantity

As Table 3 shows, even with a limit of 1000 kilograms, some 336 million gallons of used oil per year (nearly half of the oil in question) would be only minimally controlled at generators sites. Under a 2000 kilogram limit, probably all of the 488 million gallons of "non-industrial" (i.e., automotive) oil and a large portion of the 456 million gallons of used industrial oils generated each year would be only minimally regulated at generators' sites. In essence, this would be virtually equivalent to not having generator regulations. In previous rulemakings concerning (§ 261.5) small quantity generators of hazardous waste, EPA has only considered exempting generators of up to 1000 kilograms per month; [see the discussions at 43 FR 58969-58971, December 18, 1978, and at 45 FR 33102-33105, May 19, 1980], and EPA sees no indication that Congress envisaged an exemption for generators of even larger quantities of recycled oil.

c. **1000 kilogram limit:** EPA has proposed a 1000 kilogram limit (about 300 gallons) to define small quantity recycled oil generators. This would subject approximately 48,000 generators to the regulations discussed later in this section. Some 514 million gallons (about 55% of the total generated each year, not counting household-generated oil) would be subject to Part 266, Subpart E, starting at the site of generation.⁶⁴ Under a 1000 kilogram limit, the vast majority of small establishments such as family farms, service stations, auto repair shops, and small industrial facilities would be subject to the very limited set of requirements discussed above. Generators of over 1000 kilograms are auto dealerships, establishments that offer "quick-lube" services to the public or that service large vehicle fleets, and industrial facilities like steel mills and automotive assembly plants. The establishments in the over 1000 kilogram group can be, but certainly are not always small businesses (e.g., steel and auto plants usually are not). For many of the establishments ("quick-lube" services),

lubricant management (purchase, sale, etc.) is a central part of the operation. In these respects the large generators are unlike small auto shops and service stations (who are almost always small businesses and for whom lubricant management is only a peripheral aspect of their operations), and we believe the former are in a better position to absorb regulatory costs.⁶⁵

EPA has determined that the 1000 kilogram limit strikes the best balance between protectiveness and economic impact concerns, as mandated by Section 3014. Comments are requested on the range of options presented. Comments are also requested on whether the limit should be expressed in gallons (i.e., 1000 kilograms is about 300 gallons of used oil). Would this simplify compliance for generators?

4. **Regulation when collected.** EPA is proposing that when recycled oil from small quantity recycled oil generators is collected for shipment to an off-site facility, the oil would then become subject to Part 266, Subpart E in its entirety. This is different than the approach in 40 CFR 261.5 for hazardous waste from small quantity generators, where waste is exempt through subsequent management. What follows is first the rationale for this proposed departure from previous EPA policy regarding "small quantity" hazardous waste, and then an explanation of how collectors who service small quantity recycled oil generators would be affected by today's proposal.

a. **Rationale:** The reasoning behind today's proposal is based on the quantities of waste involved; the composition and management practices of used oil vs. other hazardous wastes; and the Congressional intent in passing Section 3014. These points are discussed here.

(1) A significant amount of used oil is generated in quantities less than 100 kilograms per month (kg/mo). Table 4 contrasts the generation pattern for used oil and other hazardous wastes.

Table 4.—GENERATION OF USED OIL VS. OTHER HAZARDOUS WASTES BY GENERATOR CATEGORY
(In thousands of tons per year)

Waste type	Generator Size Categories (kilograms per month)			
	<100	100-1000	>1000	Totals
Used oil	340	1,440	1,927	3,707
Hazardous waste other than used oil	180	760	264,000	264,940

Sources:

1. See Table 3, above. [Gallons converted to tons at 7.5 lbs per gallon of oil. Farmers' oil is included in "<100 kg/mo" category.]

2. Hazardous waste.—The proposal at 50 FR 31265, August 1, 1985.

recycled oil generators would also be regulated under today's proposal when collected for reclamation or other recycling.

** The requirements that would apply to large recycled oil generators are discussed in the next section, below.

As Table 4 shows, for used oil, generators of less than 100 kilograms per month (kg/mo) account for 9%, and generators of 100–1000 kg/mo for 39%, of the total generated each year. In contrast, for other hazardous waste, generators of less than 100 and 100–1000 kg/mo, respectively, account for only 0.07 and 0.3 percent of the total generated. The significant difference between used oil small quantity generators as contrasted to hazardous waste small quantity generators is also evident in terms of the absolute volumes generated by the two groups. For example, used oil generators of less than 100 kg/mo generate 340,000 tons per year, or 88% more waste, than their hazardous waste counterparts (who only generate 180,000 tons per year).

(2) "Small quantity-generated" used oil is similar to "large quantity" used oil in composition and management practices. Used oil from the less than 100 kg/mo generators is primarily used automotive oils, and can be expected to contain the same hazardous constituents (at the same levels) as found in any used automotive oil.⁶⁴ Moreover, much of this small quantity-generated oil is potentially available for off-site recycling, such as fuel use. If EPA were to exempt from regulation used oil generated in quantities less than 100 kg/mo, tens of millions of gallons of contaminated used oil could be recycled each year in unsound ways, such as being sold as residential heating oil. [If this oil was exempt from regulation, it would not be subject to the fuel specification promulgated in the final Phase I rule. See Table 1, above, for the specification. So therefore it could be contaminated with toxic constituents.] We believe it is quite conceivable that tens or even hundreds of thousands of people could be exposed to elevated levels of toxic air pollutants if used oil generated in quantities less than 100 kg/mo was exempt from regulation.^{65, 66}

(3) Congress provided for recycled oil

to be regulated under a unique framework. Section 3014 exempts recycled oil from the requirements of sections 3001(d), 3002, and 3003 (the Sections of RCRA guiding regulation of hazardous waste generators and transporters) and EPA is to regulate recycled oil as necessary, while minimizing adverse impacts on generators. The proposal to begin full regulation of small quantity recycled oil generators' oil when collected has the advantage of imposing only minimal requirements on the generators (as described above) without allowing the oil, when collected, to go completely unregulated. The proposal would allow EPA to concentrate its resources on points where larger quantities of recycled oil were being aggregated and accumulated for recycling.

Comments are requested on the proposal to regulate small quantity-generated recycled oil, and the rationale explained above.

b. *Collectors:* Under today's proposal, small quantity recycled oil generators' oil becomes subject to full regulation under Part 268, Subpart E upon collection. [See proposed § 268.40(c)(2)(ii).] We have proposed special requirements for transporters who collect from small quantity recycled oil generators [see proposed § 268.42(e)(2)(iii)] under which the transporter would assume, in lieu of the generator, the responsibility for ensuring that the collected oil is delivered to an authorized facility. In this sense, the collector assumes certain generator-like responsibilities.⁶⁷ EPA reasons that this approach would help ensure sound management of small quantity recycled oil generators' oil, while minimizing the requirements (and costs) imposed policy for regulating collected "small quantity" recycled oil, including the proposed § 268.42(e)(2)(iii) transporter requirements.

B. Large Generators

1. Applicability. Generators who fail

⁶⁴ We do not think these same high exposure scenarios would result when used oil is *disposed of*. When disposed, used oil would pose hazards similar to other hazardous waste managed under § 261.5 and for the reasons explained at 45 FR 33104–5 (May 19, 1990), we do not see a need for regulation of waste managed in this way. See proposed § 261.5(j)(1), which provides that used oil being disposed of would simply count along with other hazardous waste to determine § 261.5 regulatory status.

⁶⁵ The collector or transporter is *not*, however, subject to generator requirements. We have proposed § 268.41(a)(6) to clarify this point. The collector would be subject to the transporter requirements. See proposed § 268.42(a)(1)(i).

to meet the conditions for "small quantity recycled oil generators" would be subject to the generator standards of § 268.41 of today's proposal. These are "large generators" of recycled oil, or just "generators."⁷⁰ The reader should note that owners and operators of facilities would be subject to those portions of the generator rules pertaining to initiation of off-site shipments of recycled oil (even though they do not generate the recycled oil per se).⁷¹ The proposed requirements for generators are discussed next.

2. *Identification numbers.* EPA is proposing that generators comply with 40 CFR 262.12 of the hazardous waste rules, which requires generators to notify EPA and obtain EPA identification numbers, and allows a generator to offer his waste only to transporters and facilities who have EPA identification numbers.⁷² [See proposed § 268.41(b).] The notification provides EPA with the location and other information on generators. The identification number helps establish a line of accountability for waste management, starting at the site of generation.

3. *On-site management.* EPA is proposing requirements for on-site recycling by generators, and storage or accumulation prior to recycling. [See the proposed § 268.41 (a)(4) and (a)(5), and § 268.41(c).]

a. *On-site burning:* Generators who burn recycled oil on-site would be subject to the same standards as off-site burners. [Today's proposal does not establish standards for burning, but § 268.44 is "reserved" for the burner standards.]

b. *Used constituting disposal:* Generators who use recycled oil in a manner constituting disposal⁷³ would be subject to the same standards as persons using hazardous waste in this manner. [See § 268.23.]

⁷⁰ In proposed § 268.41–268.44 and the remainder of this preamble, the term "generator" means those generators who would be subject to § 268.41, not small quantity recycled oil generators subject to the special requirements of § 268.40(c).

⁷¹ As discussed later in this preamble, transporters may also be subject to the generator requirements under certain circumstances.

⁷² A generator who already has an EPA identification number need not re-notify.

⁷³ "Used in a manner constituting disposal" means the recycled oil is applied to or is placed directly on the land or contained in products that are applied to or placed directly on the land (in either case the "product" itself remains a waste). As discussed in an earlier section of this preamble, products produced so that the recycled oil is inseparable by physical means are currently exempt. [See § 268.20 and proposed § 268.40(b)(2).]

⁶⁴ See the EPA report, *Composition and Management of Used Oil Generated in the U.S.*, November 1984, p. 3–33, for composition of used automotive oils.

⁶⁵ Even if only one-half of all the used oil from generators of less than 100 kg/mo enters the commercial fuel oil market (through an exemption by EPA similar to § 261.5), i.e., about 45 million gallons per year, this is enough fuel for about 4000 residential boilers. [This is assuming that on average, a residential boiler consumes 5 gallons of oil per hour, for 2190 hours per year, and the used oil is burned without blending. In practice, we believe the used oil would be diluted with virgin fuel oil at ratios ranging from 2/1 to 9/1, so the actual number of boilers potentially affected could range from 8000–36000.]

c. *On-site reclamation*: EPA has proposed no standards for reclamation of used oil by generators. [On-site reclamation may precede reuse of used oil as a lubricant, reuse as a fuel, or shipment off-site.] Note that EPA does not presently regulate the actual reclamation of any hazardous waste, although facilities that only reclaim (without storage) are subject to RCRA Section 3010(a) notification requirements and, for off-site facilities, to the §§ 265.71, 265.72, and 265.76 manifest requirements. [See § 261.6(c)(2), and 50 FR 652; January 4, 1985.] EPA, however, would tend to view any claimed "reclamation" of used oil in a surface impoundment to be storage or even disposal, subject to regulation as described below. [Id., footnote 44; "... impoundments are rarely considered to be an integral part of the . . . recycling process . . ."] This policy would not, however, apply to recovery of oil from oily wastewater containing only *de minimus* amounts of oil, because such wastewater would be exempt from regulation under proposed § 261.3(a)(2)(iv)(F). As explained above, a person recovering oil from this exempt wastewater is considered, by the act of recovery itself, a generator of used oil. [If the generator then subsequently further reclaims the recovered oil, he would then be subject to the policy proposed above.]

d. *On-site storage*: EPA is proposing special standards for generators who accumulate (store) for a relatively short time under certain conditions. Generators who meet these conditions would not be subject to the storage facility regulations (discussed in a later section of this preamble) for used oil recycling facilities. A generator who fails to meet any of these conditions would be regulated as a used oil recycling facility under the proposed § 266.43 standards.⁷⁴ ⁷⁵ [See the proposed § 266.41(c), introductory text.]

Each condition is discussed next. [See § 266.41(c) (1) through (6) of the proposal for the conditions.]

(1) Storage must be in a tank or container. Recycled oil, because its value is decreased when contaminated by water or dirt, is nearly always stored in a tank or container. Storage in a surface impoundment poses inherently

greater risks than tank or container storage, and the greater risks call for full regulation, not reduced standards.

(2) Accumulation time must not exceed 90 days. The 90 day time limit was adopted from the hazardous waste regulations. [See § 262.34(a), introductory text.] EPA presently has no information indicating that generators of recycled oil need a longer period of time to arrange for recycling of their oil.⁷⁶ Comments are requested on this point. Is the proposed 90 day limit adequate for recycled oil generators? Are there circumstances where a longer time period is needed⁷⁷ to facilitate proper recycling?

(3) Containers and tanks must be labeled. EPA is proposing that containers or tanks used to accumulate or store recycled oil be labeled with the term "RECYCLED OIL" to clearly identify the generator's storage area. A similar provision applies to hazardous waste generators under § 262.34(a)(3).

(4) Container standards. EPA is proposing most of the same requirements for recycled oil stored in containers that apply to generators of hazardous waste under § 262.34 (which references Part 265, Subpart I):

- Containers must be maintained in good condition; and if a container leaks, the contents must be removed and transferred to a good container (or managed in some other way, according to the proposed § 266.41 rules);
- Containers holding recycled oil must be kept closed, except when it is necessary to add or remove oil;
- Containers must not be handled in a way that would cause leaks, spills, or ruptures;
- The generator must conduct a weekly inspection of the storage area to spot signs of leakage or corrosion; and
- Ignitable recycled oil (i.e., recycled oil with a flashpoint below 140° F) must be kept at least 50 feet away from the property line.⁷⁸

⁷⁴ The vast majority of recycled oil generators either store in drums or in tanks less than 600 gallons in capacity. [See the report, *Waste Oil Storage* by Franklin Associates, Ltd., January 1984, pp. 2-3.] Since the generators subject to the requirements discussed here generate over 1,000 kilograms (300 gallons) per month, it seems apparent that on-site storage is typically much less than 90 days.

⁷⁵ Under § 262.34(b) of the hazardous waste regulations, the EPA Regional Administrator may grant an additional 30 days for "unforeseen, temporary, and uncontrollable circumstances." If EPA receives information indicating that a time period longer than 90 days is appropriate for recycled oil, we would likely specify the alternate time period in the rule itself (rather than having a provision for case-by-case extensions) by the Regional Administrator.

⁷⁶ On June 5, 1984, EPA proposed to use portions of the NFPA code as a more flexible "buffer zone"

EPA is not proposing that §§ 265.172 and 265.177 of the hazardous waste rules apply to recycled oil. These sections deal with hazards related to compatibility of wastes and materials, and co-management of incompatible wastes. Used oil is compatible with virtually any material so these controls are not relevant.⁷⁹ EPA has also not proposed a date marking requirement (to document compliance with the 90 day time limit) for recycled oil containers as is required for hazardous waste generators under § 262.34(a)(2). Elsewhere in today's proposal, we discuss certain recordkeeping requirements for generators. Basically, generators would have to record the date of each off-site shipment of recycled oil. Since we are attempting to minimize the administrative burdens of today's proposed recycled oil generator rules, and since most generators (i.e., those who ship off-site) would be subject to this other recordkeeping requirement, we see no need to additionally require a date-marking requirement. EPA solicits comments on its proposal to not include the above requirements as part of the generator requirements.

(5) In order to meet the statutory mandate to effectively regulate recycled oil while minimizing adverse impacts on generators, EPA is proposing a tiered approach for recycled oil tank systems. [See the proposed § 266.41(c)(5).] First, all tanks would be subject to the Part 265, Subpart I standards that apply to hazardous waste generators under § 262.34(a)(1). These requirements include:

- A "freeboard" or overflow protection requirement for open-top tanks;
- A requirement that continuous-feed tanks be equipped with a shut-off or by-pass system;
- Inspection requirements for drainage, cut-off, and by-pass systems (daily), for monitoring equipment (if any, daily), for the visible portions of the tank (daily) and the area around the tank (weekly) to detect signs of leakage or corrosion;
- Buffer zone requirements for when ignitable (flashpoint below 140° F) oil is stored, from the NFPA code; and
- Requirements to remove and properly manage oil, residues, and

requirement. [See 49 FR 23290.] We are considering comments received. If we do adopt the more flexible approach, it would of course apply to used oil as well as other ignitable wastes.

⁷⁹ If incompatible or reactive hazardous waste was stored at a generator's site along with used oil, such waste would of course remain subject to §§ 265.172 and 265.177.

⁷⁴ Hazardous waste generators are regulated in a similar fashion. See the § 262.34 "90 day accumulator" rule. The rules proposed for recycled oil generators were developed using § 262.34 as a starting point; certain modifications are proposed pursuant to the special Section 3014 mandate discussed above.

⁷⁵ A generator who conducts on-site recycling, such as burning or reclamation, is still eligible for these special storage requirements.

contaminated equipment when the tank is closed.

These standards have been established through previous rulemakings as necessary for tank storage to protect human health and the environment. [See 48 FR 2802-2898, January 12, 1981.] With respect to today's proposal, there are two points requiring some discussion and clarification. First, the proposed requirements would apply to recycled oil "tank systems." This term is broader than "tank" in that it includes a tank's ancillary equipment (e.g., valves, pipes, etc.). [See 50 FR 28455; June 28, 1985.] Second, the inspection requirements [proposed § 268.41(c)(5)(iii) (D) and (E)] would apply only to *above-ground* portions of tank systems. [The current hazardous waste rules do not make this explicitly clear (§ 265.194), but we have indicated that inspections of underground tanks are not expected. [See 48 FR 2832; January 12, 1981, and 50 FR 28487; June 28, 1985.] This is particularly relevant to the present discussion since most recycled oil generators store in underground tanks.⁶⁷ These very basic requirements would impose costs less than \$1,000 per year for all affected generators and would cause adverse impacts on small businesses or on used oil recycling.⁶⁸ Comments are requested on these proposed requirements.

Beyond the requirements described above, EPA is proposing additional requirements for new tank systems (*i.e.*, tank systems installed after the regulations become effective) pertaining to secondary containment systems and closure and post-closure requirements. Also, EPA is proposing special requirements for tank systems that are found to be leaking or otherwise unfit for use. The additional requirements described here are being proposed as part of the Agency's program to improve its hazardous waste storage regulations. On June 28, 1985 EPA proposed revisions and additions to the hazardous waste tank requirements of § 262.34(a), Part 264, Part 265, and the corresponding

permit requirements of Part 270. [See 50 FR 28444.] As described in the June 28 proposal, EPA has determined that in certain respects, the current tank standards are incomplete and unworkable. [Ibid. at 28447.] The finding was made by EPA that additional regulations are needed to adequately control hazardous waste tank storage, particularly hazards to ground water. [Id.] For the reasons set forth in the June 28 preamble, EPA proposed new requirements for generators and owners and operators storing hazardous waste in tanks. EPA considered proposing all of these same requirements for recycled oil tank systems. We are not proposing all of the new requirements for recycled oil generators,⁶⁹ however, because pursuant to the section 3014(c) directive to consider impacts, we have found that the new requirements would adversely affect recycled oil generators who are small businesses and could discourage environmentally acceptable types of used oil recycling.⁷⁰ We estimate that the new tank system requirements, if applied *in toto*, could impose annualized costs for generators of about \$1,200-\$3,600 per year. For a generator of, for example, 1100 kilograms per month (about 3600 gallons per year), this would mean costs as high as \$1.00 per gallon of used oil generated and stored. EPA is concerned that costs this high, if imposed throughout the recycled oil generator universe, could induce the following kinds of adverse impacts:

- Increased disposal of used oil in sewage systems;
- Reluctance by generators to accept "do-it-yourself" (household-generated) used oil; and
- A price increase in oil-changes services offered to the public (and a corresponding increase in do-it-yourself oil changes).

EPA is therefore proposing a gradual, phased approach, that reduces impacts on small businesses and on recycling by requiring stringent controls on tank systems when they are installed (*i.e.*, "new" tanks) and by requiring leaking tanks to be closed, repaired, or replaced, with the latter two actions triggering the new tank requirements.⁷¹

⁶⁷ That is, for those generators who meet the proposed § 268.41(c) conditions. For example, if a generator stores longer than 90 days, he would not be eligible for the special requirements being discussed here but rather would be regulated as a used oil recycling facility.

⁶⁸ Unless otherwise noted, the discussion here is from the *Regulatory Impacts Analysis, US EPA, Office of Solid Waste*, November 1985, Chapter V.

⁶⁹ Also, as described in the preceding section of the preamble, we are proposing only minimal requirements for generators of less than 1000

Since we estimate only about 10% of generators' tank systems are presently leaking⁷², most generators would not be immediately affected by the new, additional requirements proposed here. All generators would, of course, be affected eventually as they replace old tanks.

(a) *Standards for new tank systems.* EPA is proposing that *new* tank systems (*i.e.*, tanks installed after these rules are in effect) would have to comply with basically all of the same standards as would hazardous waste generators under the proposed § 262.34(a), as it would be amended per the June 28 proposal. [See 50 FR 28458.] The new requirements pertain to secondary containment, closure, and post-closure of tank systems. We have "reserved" paragraphs in the proposed § 268.41(c)(5)(vii) of the recycled oil rule for the new tank standards. For the reader's convenience we are presenting the proposed requirements here in Figures 1 and 2.

Figure 1—Proposed Requirements for New Tank Systems

Paragraphs (b) and (c) from the proposed § 265.193, secondary containment [See 50 FR 28485-86; June 28, 1985.]

(b) Full secondary-containment systems must be:

- (1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil or ground water or to surface water at any time during the intended life of the tank system; and
 - (2) capable of detecting and collecting any waste or leak and accumulated liquids until the collected material can be removed.
- (c) To meet the requirements of paragraph (b) of this section secondary-containment systems must be a minimum:
- (1) Constructed of or line with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);
 - (2) Placed on a foundation or base capable of providing support to the secondary-containment system and resistance to pressure gradients above and below the system owing to settlement, compression or uplift;

kilograms per month of recycled oil; *i.e.*, we are regulating larger generators more stringently than smaller ones.

⁷² See the *Regulatory Impacts Analysis, EPA Office of Solid Waste*, November 1985, p. IV-48.

⁶⁷ See the *Regulatory Impacts Analysis, US EPA, Office of Solid Waste*, November 1985, Chapter V.

⁶⁸ Ibid. Most generators with underground tanks would incur virtually no costs under this proposal. Cost of the proposed requirements for generators with above ground tanks would be in the range of 25 cents per gallon of used oil generated and stored. The reader may note that above, EPA concluded that costs in the range of \$1,000-\$2,000 per year for small quantity recycled oil generators would be associated with adverse impacts on used oil recycling. However, the reader is reminded that for the small quantity recycled oil generators costs of \$1,000-\$2,000 per year can mean costs of \$2.40 to \$4.80 per gallon of used oil generated and stored, and these higher costs per gallon are what concern EPA (with respect to recycling impacts).

(3) Provided with a leak-detection system that is designed or operated so that it will detect the presence of any release of hazardous waste or accumulated liquid in the secondary-containment system within 24 hours of entry of the liquid into the containment system;

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary-containment system in as timely a manner as is possible but no later than 24 hours after the detection of the release;

(5) Designed or operated to contain 110 percent of the design capacity of the largest tank within its boundary;

(6) Designed or operated to prevent run-on or infiltration of precipitation into the secondary-containment system unless the collection system has sufficient excess capacity in addition to that required in paragraph (c)(5) of this section to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25 year, 24 hour rain storm.

Figure 2—Proposed Requirements for New Tank Systems

Paragraphs (a) and (b) from the proposed § 265.197, closure and post-closure care. [See 50 FR 26483-84, and 26487; June 26, 1985.]

(a) At closure of a tank system, the owner or operator must remove or decontaminate all hazardous waste residues, contaminated containment system components (liners, etc.), contaminated soil, and structures and equipment contaminated with waste, and manage them as hazardous waste unless § 261.3(d) of this chapter applies.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, soils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated soils can be practicably removed or decontaminated, he must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 264.310).

The rationale for these proposed requirements is discussed fully in the June 26 proposal. [See 50 FR 26456 and 26462-82.] We estimate the requirements in Figures 1 and 2 would impose average annualized costs of approximately \$1200-3600 per year for a generator installing a new tank.⁶⁶ Although this

would mean costs in the range of \$0.35-\$1.00 per gallon, of used oil we do not think that today's proposal would cause significant adverse impacts on generators, based on the following rationale:

- Of the 48,000 generators potentially subject to the requirements (*i.e.*, generators over 1000 kilograms per month), we expect that about 41,000 would incur annualized costs less than \$1600 per year, that is, less than \$0.45 per gallon, and costs this high are not likely to cause adverse impacts;

- The 7000 or so generators that would potentially incur larger costs (*i.e.*, up to \$3600 per year) are industrial operations, and given their overall cost structures these operations would not be adversely affected by costs in this range;⁶⁷ and

- Because the requirements would be phased-in, generators would have, in most cases, years to set aside funds for new tank installation.

The last point is of particular importance. The proposed secondary containment requirements would require fairly large initial expenditures (*e.g.*, about five times greater than the annualized costs presented above). Most recycled oil generators are small businesses and could have difficulty obtaining financing. Phasing-in the requirements not only minimizes impacts on the generator universe as a whole (and therefore on the nationwide "flow" of used oil) by spreading-out the impacts over time, but also would allow each generator to make financing arrangements suitable to his own cash flow situation.

The June 26 proposal also discussed certain alternatives to secondary containment that the Agency has considered, but did not propose. [See 50 FR 26451-53 for a full discussion of these alternatives.] These include:

- A combination of secondary containment and ground-water monitoring;
- National risk-based standards;
- Minimum national standards with a variance from containment requirements based upon risk;
- Minimum performance standards;
- A ban on underground tanks; and
- Forced retirement of underground tanks.

The public may comment on these requirements as they would apply to recycled oil generators as alternatives to Figures 1 and 2. Also, with respect to standards for new underground tank systems, EPA considered (in lieu of today's proposal) application of the

"interim prohibition" from section 9003(g) of RCRA. As described in the previous section of this preamble, this requirements, which amounts to corrosion protection, is the Congressionally-mandated minimum level of control for underground tank systems (storing petroleum and other hazardous substances) and as the reader will note, we have proposed a modified version of the interim prohibition for small quantity recycled oil generators.⁶⁸ The Agency has concluded, however, that for hazardous waste tank systems corrosion protection alone is not as protective as full secondary containment. [See 50 FR 26450; June 26, 1985.] Since, as we discussed above, EPA intends to require secondary containment for other hazardous waste tank systems under Subtitle C and since the proposal to phase-in secondary containment requirements for recycled oil generators would not cause significant adverse impacts, we do not see a basis for proposing less stringent requirements for recycled oil tank systems within the framework of section 3014(c).

Comments regarding the adequacy (*i.e.*, protectiveness) and costs of all of the options discussed above for new tank systems are requested.

(b) Standards for leaking tank systems. For the reasons described above (*i.e.*, adverse impacts), EPA has not proposed secondary containment requirements for all recycled oil generators. Therefore, even under today's proposal some tank systems will fail and leak. EPA has proposed that (see § 266.41(c)(5)(vi) of the proposal) as soon as a generator is aware that his tank system is leaking (or otherwise unfit-for-use), he must take the following actions:⁶⁹

- Stop the flow of oil into the tank;
 - Remove the oil from the tank (to prevent continued release and allow inspection);
 - Contain visible contamination; and
 - Report the event to the Regional Administrator within 24 hours after discovering or confirming the release.
- Tanks taken out of service as described here would either have to be closed (with the removal of contaminated soil or equipment), repaired, or replaced.

⁶⁶ Further, as we explained above, the section 9003(g) interim prohibition currently applies to all underground petroleum tanks, including used oil tanks. [See 40 CFR 280.1 and 280.2.] This requirement will remain in effect until the rules proposed today, when promulgated in final form, become effective.

⁶⁷ These requirements are taken from the proposed new § 265.192, proposed on June 26, (50 FR 26485) for hazardous waste tank systems.

⁶⁸ See the Regulatory Impact Analysis Rules, EPA Office of Solid Waste, November 1985, Chapter V.A. This includes the cost of secondary containment plus, for above-ground tanks, the inspection requirements proposed above for all recycled oil tank systems. The reader should also note that under today's proposal the closure requirements for new tank systems would be expanded as per the June 26 proposal. [50 FR 26483-84.] We do not discuss this part of the proposal in depth because it mainly is a conforming change made necessary by the proposed secondary containment requirements and because the cost impacts are insignificant; *i.e.*, an estimated \$82 at closure for residue removal. [Id.]

⁶⁹ Ibid. Chapter IV-C. and D.

When a tank is repaired or replaced, we would consider it a "new" tank, subject to the standards proposed above (Figures 1 and 2). EPA views this latter aspect of the proposal (i.e., tanks returned to service being considered as "new" tanks) to be a crucial aspect of the proposal to phase-in secondary containment for recycled oil generators. In this way, tank systems posing the greatest hazards (i.e., those that are leaking) would be replaced with tank systems that are not likely to pose any significant hazards, and therefore the hazards posed by the national universe of generators' tanks would be reduced overall.³⁰

We do not expect the proposal (for replacement tanks to comply with secondary containment) to cause significant adverse impacts for the following reasons:

- We estimate that nationwide, only about 10% of the used oil tanks are presently leaking, so therefore most of the recycled oil generator universe would not be immediately affected by the proposal;

- Of the approximately 4500 generators thought to have leaking tanks, we estimate over 3500 would incur initial costs less than \$8,000, and annualized costs less than \$1600 per year; and

- Generators with leaking tanks would have the option of closing the tank system and storing the oil in some other way, for example in containers.

Finally, the reader may note that we have not at this time proposed any leak detection requirements for recycled oil generators. That is, the proposed requirements for leaking tanks have no "trigger" mechanism. EPA considered requiring a one-time "assessment and certification" provision for recycled oil generators' tank systems similar to the requirements proposed on June 28, 1985 for hazardous waste interim status facilities. [See 50 FR 28484-85, and proposed § 285.191.] This would include, among other things, leak testing for the underground portions of a tank system. [Id.] We have not proposed this requirement because we are still evaluating various leak detection schemes for petroleum materials, both in terms of their effectiveness and (as required by Section 3014(c) for recycled oil) their cost impacts.³¹ At this time, the

Agency does wish to specifically solicit public comment on the following suggestions made to EPA pursuant to the June 28, 1985 proposal for hazardous waste tank systems:³²

- Observation wells (installed in the backfill material) for both new and existing tank systems;

- Inventory monitoring.

On the latter point, EPA has indicated that we believe inventory monitoring is, for several reasons, inaccurate and largely ineffective. [50 FR 26448-49; June 28, 1985.] With respect to recycled oil, we are also concerned that inventory monitoring would impose time-consuming and costly administrative burdens on generators (i.e., small amounts of used oil are constantly added to storage tanks, changing the oil level with each addition). We continue to believe inventory monitoring holds little promise for controlling hazardous wastes tanks, including used oil tanks. We welcome, however, any new information on this point.

Observation wells, by contrast, may be more effective. EPA is interested in the extent to which wells are presently employed for used oil tanks, the costs of installation (particularly for retrofitting), any technical difficulties experienced with wells, and sensitivity of wells as a leak detection mechanism. Comments are requested on observation wells and other leak detection schemes. EPA will continue its evaluation through the public comment period and we may, at some later date, propose leak detection requirements to accompany the rest of today's proposal.

(6) Standards for facility management. EPA is proposing that generators must comply with the following requirements pertaining to facility management [see proposed § 268.41(c)(6)]:

- The establishment would have to have on-site a telephone, an appropriate number and types of fire extinguishers, and spill control material (such as saw dust);

- At all times, an "emergency coordinator," (E.C.), i.e., someone familiar with these requirements, must be on-site (or on call). The E.C. can also designate someone to act in his place;

- The generator must request an inspection by the local fire department to make sure the department personnel

know where oil is stored; that the appropriate type and number of extinguishers are present, etc.;

- The generator must post certain information next to the telephone, including: the name and phone number of the E.C.; location of fire extinguishers and spill control material; and the phone number of the fire department;

- The generator (or the E.C.) would have to respond to any emergencies that arise. In the case where an emergency was serious enough to warrant a visit by the fire department or where oil reaches surface water or adjoining shoreline the generator would have to file a report with the EPA Regional Administrator; and

- The generator must ensure that his employees are familiar with these requirements.

EPA has determined that the above requirements would ensure sound facility management (or "good housekeeping"), without adversely affecting generators. The reader should make note of certain points concerning these proposed requirements. First, absorbent materials soaked with used oil (e.g., such as machine drippings) and used oil spill clean-up materials would both, via the "mixture" policies discussed above in section LA.2. of this Part of the preamble, be subject to RCRA regulation.³³ When such materials are disposed of, they are subject to full regulation as hazardous waste under Parts 261-265, 124, and 270.³⁴ When recycled, the material would be considered recycled oil, subject to all applicable requirements proposed today (and if burned for energy recovery, to the final Phase I burning rule). Second, when generators train their personnel regarding the recycled oil requirements proposed today [proposed § 268.41(c)(6)(vi)], the Agency would also expect that employees be made aware (or reminded) of EPA's Chemical Advisory on the potential hazards associated with prolonged skin contact with used motor oil.³⁵

³⁰ A generator who uses absorbent materials to clean-up spills or machine drippings would not, due to that activity, lose eligibility for the special reduced requirements for "90 day" recycled oil generators (i.e., the proposed § 268.41(c)).

³¹ Note that in the listing proposal that appears elsewhere in this Federal Register, we propose an exemption for certain "oily wipers."

³² EPA found that mice dermally exposed to used motor oil exhibited a significantly increased incidence of cancer. EPA recommends that to prevent cancer, personnel working with automobiles should regularly wash with soap and water and avoid unnecessary prolonged contact with used motor oil. See the *Notice of Potential Risk: Used Motor Oil* (Chemical Advisory, issued under the Toxic Substances Control Act), February 1984.

³³ See the *Regulatory Impacts Analysis*, US EPA, Office of Solid Waste, November 1985, Chapter V-E, and the *Background Document for the RIA*, November 1985, Chapter IV, for the discussion of the environmental benefits anticipated under today's proposed storage rules.

³⁴ Under today's proposal, State or local agencies could conduct leak testing at generators' sites or could specify test methods within their areas of

jurisdiction. In any case, when as a factual matter a leak is detected, the proposed requirements for leaking tank systems [proposed § 268.41(c)(5)(vi)] would then come in to play.

³⁵ Another suggested approach was to require only corrosion protection (i.e., the "interim prohibition") for new tank systems in lieu of secondary containment. We discussed this issue at some length above and so here focus only on suggestions concerning leak detection.

The reader may note that generators of hazardous wastes, under § 262.34(a), must comply with certain requirements from Part 265 pertaining to general facility management. These include Part 265, Subpart C (preparedness and prevention) and Subpart D (emergency procedures), and § 265.16 (personnel training).

These requirements are intended to ensure that the generator's personnel are properly prepared to manage waste and respond to any emergencies that are likely to arise. EPA considered applying these same requirements *in toto* to generators of recycled oil, but we are concerned that these requirements are: (1) Written in a manner designed to cover the multitude of hazards that may arise at any kind of generator site (*i.e.*, not specific to recycled oil); and (2) that the requirements are costly (about \$1000 per facility) and, when considered along with the proposed storage requirements (above), could have adverse impacts on small businesses and sound recycling practices. Because of these concerns, we have developed a simpler set of requirements that we believe will be adequately protective and yet that would also be less costly and better-suited to the small business nature of most recycled oil generators.⁷⁶ Comments are requested on today's proposal.

4. *Shipments off-site.* Section 266.41(d) of today's proposal would establish certain requirements for used oil sent off-site for recycling.⁷⁷ These requirements are based on the existing standards for hazardous waste generators in 40 CFR Part 262, taking into account the special requirements of RCRA Section 3014(c) (2) and (3) for recycled oil generators.

⁷⁶ The reader should note that on August 1, 1985 EPA proposed standards for generators of between 100-1000 kilograms of hazardous waste per month, as required by section 3001(d) of RCRA. [50 FR 31278.] As explained in the proposal, these hazardous waste generators are predominantly small businesses. The requirements proposed for these generators take into account small business impact concerns. [Ibid at 31283-86.] Today's proposal for recycled oil generators, as described above, takes into account similar concerns, and therefore the standards proposed today for recycled oil generators are similar to the standards proposed for the 100-1000 kg/mo hazardous waste generators.

⁷⁷ As mentioned above, owners and operators of used oil recycling facilities would also have to comply with this paragraph when sending shipments off-site, for example when one processor sends oil to another processor, or when a fuel is shipped to a burner. For simplicity, the rest of this discussion refers only to generators.

⁷⁸ The reader should note that this paragraph would not apply to the marketing of the recycled oils (specification fuel and certain asphalt products) conditionally exempted under the proposed § 266.40 (a)(2) and (b).

(1) *Pre-transport requirements.* Today's proposal would require that recycled oil generators comply with certain requirements for packaging (§ 262.30), labeling (§ 262.31), marking (§ 262.32), and placarding (§ 262.33) that apply to hazardous waste generators under 40 CFR Part 262. [See § 266.41(d) (1) of today's proposal.] These requirements reference standards of the U.S. Department of Transportation in 49 CFR Parts 172, 173, and 178. Further, under the proposal, generators could only offer their recycled oil to transporters with EPA identification numbers. [See the proposed § 266.41(b), which references § 262.12 of the hazardous waste rules pertaining to "identification numbers."] This is to help establish a line of accountability for shipments sent off-site, *i.e.*, to initiate a tracking system.

(2) *Manifest exemption for recycled oil.* Under 40 CFR Part 262, generators of hazardous waste must initiate a hazardous waste manifest, which begins the "cradle to grave" tracking system of Subtitle C. Congress, however, mandated a different approach for tracking recycled oil in section 3014(c)(2)(B). This section of the Act provides that EPA must not impose manifest requirements if a generator meets the following conditions.

- He must make arrangements to have the used oil collected and recycled at a permitted facility (either his own facility or a facility he contracts with), including those facilities deemed to have a permit under section 3014(d) of RCRA;
- He does not mix other hazardous waste in with the recycled oil; and
- He complies with whatever recordkeeping requirements promulgated by EPA in lieu of the manifest requirements.

EPA has proposed these conditions in § 266.41(d)(2)(i).⁷⁸

⁷⁹ EPA has not included the "no mixing" condition in § 266.41(d)(2)(i). As discussed in detail above, Part 268, Subpart E applied only to recycled oil. By definition, recycled oil has not been mixed with any other hazardous waste. Therefore, a similar provision in § 266.41 would be redundant. Also, we consider interim status facilities to be within the scope of "permitted" facilities in the first condition because section 3005(e)(1)(C) of RCRA states that EPA should treat these facilities as having been issued a permit (until action is taken regarding their permit application). See proposed § 266.40(e)(3) pertaining to "authorized" facilities. EPA believes such a reading is necessary because to conclude otherwise would mean that Congress was being more restrictive for generators of recycled oil than for other hazardous waste generators (*i.e.*, hazardous waste generators can ship to interim status facilities without penalty); section 3014(c), in fact, seems to indicate that Congress's intent was just the opposite.

EPA has further added a condition that exports of recycled oil are not eligible for the manifest exemption. As with all hazardous wastes listed or identified under section 3001, the export of such oil will be covered by the provisions of section 3017, which was specifically enacted by Congress to address hazardous waste exports.

The Agency has considered whether section 3014 requires extension of the recycled oil manifest exemption to exports. For the following reasons, we believe it does not. Although section 3014(c) broadly states that the existing Subtitle C standards under section 3001(d), 3002 (manifest requirements), and 3003 shall not apply to recycled oil, the Section also provides that the recycled oil standards must "protect human health and the environment". As explained in Section III of Part One of this preamble (above), since the environmental standard under Section 3014 is identical to that upon which existing Subtitle C hazardous waste regulations are based, the recycled oil regulations in this proposal have been developed on the presumption that Subtitle C requirements apply to recycled oil unless section 3014 specifically provides otherwise. In the case of manifests, section 3014(c)(2)(B) specifically provides that recycled oil generators are exempt from any manifest requirement if, as noted above, they arrange for delivery to a recycling facility authorized to manage recycled oil. Since the manifest exemption is conditioned upon delivery to an authorized facility, it does not extend to exports to foreign facilities, which are not covered by RCRA. This limitation on the application of the manifest exemption is supported by the legislative history of section 3014 which explains that "... generators of used oil that is a hazardous waste ... are exempt from ... manifest requirements provided that such used oil is delivered to one or more permitted used oil recyclers who are in compliance with the special standards adopted pursuant to this legislation" (emphasis added). [H.R. Rep. No. 98-198, 98th Cong., 1st Sess. at 66, (1983).]

This limitation is also consistent with the provisions of Section 3017(a)(1)(c) which provides that a receiving country's written consent be "attached to the manifest accompanying each waste shipment," (emphasis added). [Id.]

A generator who meets the above conditions ¹⁰⁰ has the option of complying either with the Part 262 manifest requirements, or the special alternate requirements described here. ¹⁰¹ [See the proposed § 262.41(d)(2)(ii).]

(3) Shipping without a manifest.

(a) *Required notices.* Before a generator starts sending used oil to a recycler, he must obtain from the recycler a one-time written notice certifying that his facility is authorized to manage recycled oil. The generator would have to keep records of notices received from each recycler for at least three years from the time he last sends a shipment to the recycler. These requirements are necessary to ensure that the recycled oil, in the absence of the manifest, is being sent to an authorized facility. [See proposed § 268.40(e)(3) for the types of "authorized" facilities.]

(b) *Designated facilities.* The proposal [§ 268.41(d)(ii)(B)] would require that when a generator offers a shipment of recycled oil to a transporter, the generator would have to provide the transporter with a list of the names, addresses, and EPA identification numbers of those facilities who have provided notices to the generator (see above). In practice, transporters collecting from multiple generators are often associated with (or owned by) a recycler, so the "designated facility" is obvious. In other cases, however, an understanding between the generator and the transporter as to the receiving facility is a crucial part of the regulatory approach today. That is, to be exempt from the manifest under this proposal, a contractual relationship must exist to provide for recycling at an authorized facility, so one or more specific facilities must be designated by the generator as eligible to receive the generator's recycled oil.

(c) *Records of shipments.* Today's proposal would require that generators record the following (for example on a log) each time recycled oil is offered for off-site shipment:

- The name, address, and EPA identification number of the transporter accepting the oil;
- The quantity of recycled oil being shipped; and

• The date of shipment.

The generator would have to retain these records for a minimum of three years from the date of shipment. [See the proposed § 268.41(d)(2)(ii)(C).]

This recordkeeping requirement, together with the corresponding requirements for transporters and receiving facilities (discussed in later sections of this preamble), would establish a line of accountability from the generator through to the receiving facility. The records required by today's proposal would include virtually all of the information required on a hazardous waste manifest by 40 CFR 262.21. The approach proposed here is different than the Part 262 manifest requirements in that no document need travel with the shipment and the receiving facility need not send a copy of the manifest back to the generator (as required under 40 CFR 264.71 and 264.42 of the hazardous waste rules), e.g., there is no "return loop." The recordkeeping requirements proposed here, together with the condition that a recycling agreement exist for a generator to be eligible for the special, reduced requirements, serves to ensure that the generator's oil will be delivered to an authorized facility. ¹⁰²

5. *Reports.* EPA requires generators of hazardous waste to file a report with the Regional Administrator every even numbered year, describing the types and quantities of wastes generated, and the transporters and facilities used for off-site shipments, if any, during the previous calendar year. ¹⁰³ [See 40 CFR 262.41, the biennial report.] EPA is proposing that recycled oil generators be exempt from the biennial reporting requirement. Due to the section 3014(c) mandate to consider impacts on small businesses and on used oil recycling, EPA has been very careful in today's proposal to keep "paperwork" to a minimum. The information that would be gathered through the biennial report can be obtained from alternate means. [For example, in support of today's proposal, EPA utilized surveys and contacts with trade associations.] Since we are able to obtain necessary data from alternate means, we have concluded that burdens on generators should be reduced by not requiring the

biennial report. ¹⁰⁴ Comments are requested on this proposal to not require the biennial report, and all other aspects of the proposed approach for regulating generators.

III. Standards for Transporters of Recycled Oil

A. Applicability

1. *General.* Section 266.42 of the proposal would establish standards for transporters of recycled oil. This section would apply to "collectors" who transport used oil from generators to reclaimers, reprocessors, and re-refiners, and to persons who transport recycled oil between reclaimers and from reclaimers to users. ¹⁰⁵ In certain cases, a transporter would also be subject to the generator requirements of § 266.41. ¹⁰⁶ First, if a transporter brings used oil into the United States from another country, he is the generator. Second, if he mixes recycled oils of different U.S. Department of Transportation (DOT) shipping descriptions, he would be considered a generator. ¹⁰⁷

2. *Mixture issues.* Several situations could arise where a transporter could have problems with mixtures. For example, generators could add hazardous waste into their used oil tanks without telling the collector. As described in Section I.A. of this Part of the preamble, a mixture of used oil and other hazardous waste is not recycled oil, and the generator is responsible for initiating a manifest for the shipment. ¹⁰⁸

¹⁰⁴ Authorized States may, of course, require reports from generators within their own boundaries.

¹⁰⁵ Transporters of the recycled oils conditionally exempted under § 266.40(b) (for example a transporter of specification fuel) would not be subject to § 266.42. Further, the transport of household-generated recycled oil would not be subject to regulation because, as explained above, we have proposed that such oil does not lose its exempt ("household") status until aggregated.

¹⁰⁶ Transporters who collect from small quantity recycled oil generators would also be subject to the transporter standards proposed here.

¹⁰⁷ Under 49 CFR 172.101, used oil, as a petroleum material, may either be classified as "combustible" (flashpoint is between 100 °-200 °F) or "flammable" (flashpoint is less than 100 °F). A transporter who is placarded for combustible material and then accepts low flashpoint/flammable oil would have to initiate a new shipping paper under 49 CFR 172.202 and would be subject to the generator requirements of § 266.41 as well as the transporter requirements of § 266.42 of this proposal.

¹⁰⁸ The data available to EPA indicates that most used oil being stored at generators' sites is not adulterated with hazardous waste. With respect to the three hazardous wastes most commonly mixed with used oil (1,1,1-trichloroethane, trichloroethylene, and tetrachloroethylene), samples taken at generator sites do not typically even contain these constituents, and rarely are the

¹⁰⁰ A generator who fails to meet any of the conditions must comply with the manifest requirements of 40 CFR Part 262 in its entirety.

¹⁰¹ EPA is proposing this optional approach because some generators may actually prefer to use the National Uniform Hazardous Waste Manifest, or may be required by a State to use the manifest. In either case, we do not believe a generator should have to comply with both the manifest and the rules proposed here. The manifest alone is adequate.

¹⁰² The reader should note that similar systems are used in various State regulatory programs. See, for example, the letter from Missouri dated July 30, 1984, on "waste oil logs."

¹⁰³ The biennial report was originally intended to serve as a summary of manifests from both generators and facilities that could be used as an enforcement tool through comparisons between generator and facility reports; currently its primary function is for data collection.

Continued

This problem can often be addressed by contracts between the transporter (or the receiving facility) and the generator that forbid the generator from adding hazardous waste to the used oil. The reader should note that the "rebuttable presumption" of mixing provision proposed today for all used oils (discussed above in Section I.A.4. of this Part of the preamble) would apply to used oil being collected. That is, a truckload of used oil with a total halogen content exceeding 1000 ppm would be deemed to be a hazardous waste (not recycled oil) unless the transporter could demonstrate that mixing had not occurred.¹⁰⁹

Also, some transporters collect and haul both hazardous waste and used oils. We have not proposed any rule to forbid this practice, but the transporter should be aware that when a container (vehicle) is used to hold or transport hazardous waste, any material subsequently placed in the container is deemed to be a hazardous waste.¹¹⁰ The exception to this general rule is when the container is cleaned ("emptied") according to 40 CFR 261.7. This section of the regulations defines when a container that has held hazardous waste may be considered "empty," and so therefore when the mixture rule no longer applies.

3. *Storage facilities.* EPA is proposing that except for two types of "transfer facilities" discussed here, transporters who store recycled oil in the course of transportation would be regulated as a recycled oil storage facility under the proposed § 266.43 standards. [The standards for storage facilities are discussed in the next section of the preamble.]

Transporters' transfer facilities¹¹¹ meeting the conditions discussed here would be exempt from the facility standards.

a. *Container facilities:* EPA is proposing that storage of recycled oil at a transfer facility in containers meeting the U.S. Department of Transportation

(DOT) packaging requirements of 40 CFR Parts 173, 178, and 179 would be exempt from the facility regulations. This exemption is currently provided for hazardous waste transporters. [See §§ 263.12, 264.1(g)(9), and 265.1(c)(12), and the discussion at 45 FR 86966-68, December 31, 1980.] We see no basis to deny recycled oil transporters this special provision, which was instituted to accommodate storage incidental to normal and routine transport and transfer activities [Id.]

b. *Tank facilities:* EPA is proposing that transfer facilities with tanks meeting the § 265.193 secondary containment standards proposed on June 26, 1985 [50 FR 26485-86] would also be exempt from the facility requirements. We have "reserved" paragraphs in the regulation [§§ 266.42(a)(3)(ii)(B) of the proposal] for these secondary containment standards. The proposal standards are presented for the reader's convenience in Figure 1 of this preamble (above, in the "generator" discussion). What follows here are two points relevant to this proposed conditional exemption:

(1) There is presently no exemption for tank transfer facilities in the hazardous waste regulations. EPA requested public comment on the need for such an exemption on December 31, 1980 [see 45 FR 86966-68] but since no comments were received at that time, we concluded that the exemption was unnecessary. EPA has determined, however, that tank transfer facilities are in fact the norm within the used oil recycling industry.¹¹² We therefore believe an exemption is appropriate for this portion (used oil recyclers) of the Subtitle C regulatory universe. In the preamble of the December 31, 1980 proposal, EPA stated its intent to impose 40 CFR Part 265, Subpart J tank standards as a condition should the tank exemption be granted. [Ibid at 86967.] EPA was concerned that the transfer and short-term storage activities conducted at transfer facilities could pose spillage and leakage hazards and that some requirements should apply. [Id.] EPA continues to believe some requirements are necessary for transfer facilities. We considered proposing the current Part 265, Subpart J tank standards for recycled oil tank transfer facilities. The Agency, however, has determined that the existing Part 265,

Subpart J tank standards are inadequate in several respects [50 FR 26447-48; June 26, 1985], and as described in the "generator" section above, we have proposed revisions to that Subpart. [Some of the proposed revisions are presented in Figures 1 and 2 above.] We also considered proposing Part 265, Subpart J as it would be amended per the June 26 proposal for recycled oil tank transfer facilities. We are not proposing the revised Part 265, Subpart J in its entirety because we believe the secondary containment portions of the proposed rules (Figure 1, above) would provide adequate protection at transfer facilities.¹¹³

Comments are requested on applying the Figure 1 secondary containment standards to tank transfer facilities. Comments are also requested on applying:

- The existing Part 265, Subpart J standards;
- Part 265, Subpart J as it would be revised per the June 26 proposal, that is, not only the secondary containment portions of the proposal but also the remainder of proposed Subpart J; and
- The alternatives to secondary containment discussed in the June 26 proposal [50 FR 26451-53] as they would apply to recycled oil tank transfer facilities.

(2) The proposal would adopt the 10-day time limit in the existing hazardous waste exemption. As EPA explained on December 31, 1980, the 10-day limit was selected:

... to allow short term holding of waste for transfer and to account for such things as scheduling problems, weather delays, temporary closing and other factors which might cause unforeseen delays." [See 45 FR 86967.]

The Agency determined that this time limit was adequate and would not interfere with normal transportation activities. [Id.] EPA is concerned, however, that a 10-day limit might be unduly restrictive for some used oil collector operations.¹¹⁴ That is, some

constituents present in excess of 100 ppm. *Composition and Management of Used Oil Generated in the U.S.* November 1984, pages 3-33 to 3-35.

¹⁰⁹ Transporters may find it desirable to conduct periodic spot checks on generators, using a simple chlorine detection test. EPA is currently assessing the reliability of chlorine field tests that collectors must use.

¹¹⁰ That is, the residue remaining in the container is hazardous, and any material subsequently added is, via the "mixture rule" in 40 CFR 261.3, also a hazardous waste, except as § 261.3 or § 261.7 provides otherwise.

¹¹¹ A "transfer facility" is defined in 40 CFR 260.10 as "... any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments ... are held during the normal course of transportation."

¹¹² *Waste Oil Storage*. Franklin Associated, Ltd., January 1984, pp. 2-2 through 2-7. A "typical" collector facility has one or two 5,000 gallon aboveground tanks. This storage is short term, and is usually associated with consolidation activities, i.e., transfer of oil into larger vehicles. EPA has concluded that this storage is incidental to transportation.

¹¹³ The secondary containment requirements (Figure 1, above) would provide a level of control equivalent to the conditions that containers meet certain DOT packaging requirements, in the existing exemption [§§ 263.12, 264.1(g)(9), 265.1(c)(12)]. That is, the existing exemption does not require compliance with the Part 265, Subpart J container standards, but rather provides that releases will be minimized through packaging requirements that ensure container integrity. Secondary containment would serve the same purpose for tank facilities, i.e., minimize releases through ensuring tank system integrity. The remainder of Part 265, Subpart J, includes additional requirements necessary for storage facilities, but not, in our view, necessary for transfer facilities.

¹¹⁴ See the discussion of collector impact issues in the *Regulatory Impacts Analysis* EPA, Office of Solid Waste, November 1985, Chapter V.C.

transporter/collectors may not accumulate enough recycled oil in 10 days for economical shipment to a reclamation facility. EPA does not intend for the 10-day limit to interfere with normal transport and transfer operations, and we are concerned that some small collector operations could even be forced to close due to a 10-day limit.¹¹⁵ We therefore request comment on what limit would constitute normal used oil transport practice, the extent to which a 10-day limit would restrict normal practice, and whether a 20 or 30-day limit would better accommodate normal practices.

c. General conditions: The proposal would adopt certain restrictions or conditions from the existing hazardous waste exemptions for both tank and container facilities. These include:

- The exemption would not apply to reclamation or fuel blending facilities;¹¹⁶

- Since the recycled oil held at a transfer facility is considered in transit, the transporter responsibilities pertaining to discharge reporting and clean-up would apply to any releases occurring at the transfer facility. [See § 266.42(c) of the proposal, which references Part 263, Subpart C of the hazardous waste transporter rules]; and

- The time recycled oil is held at a transfer facility counts against the 35-day period allotted for shipments sent from generators to receiving facilities. [See the proposed § 266.42(e)(2), introductory text, for the delivery limit. The 35-day limit applies to hazardous waste transport under §§ 262.42(a) and 263.21.]

These conditions were explained on December 31, 1980 [45 FR 86966-88] for the hazardous waste exemption, and EPA can see no basis for modifying any of these requirements for recycled oil.

Comments are requested on the transfer facility exemption proposed here and supporting rationale, and the specific points raised above. The requirements for transporters are discussed next.

B. Identification Numbers

Under § 266.42(b) of today's proposal, transporters would have to comply with 40 CFR § 263.11, pertaining to the need for an EPA identification number. Under this requirement, transporters would have to notify EPA and obtain an EPA

Identification Number. [Transporters who already have an EPA ID number need not re-notify.] The notification and identification number process helps establish a line of accountability for the movement of used oils from generators to recyclers, and between recyclers.

C. Discharges

Section 266.42(c) of today's proposal would require transporters to comply with 40 CFR Part 263, Subpart C, which requires hazardous waste transporters to take appropriate actions in the event of a transportation mishap, including notifying appropriate authorities and cleaning-up material discharged. These requirements are necessary to ensure public safety as hazardous materials are transported.

D. Manifested Shipments

Whenever a generator of recycled oil initiates a manifest, transporters would have to (under § 266.42(d) of the proposal) comply with 40 CFR Part 263, Subpart B, the hazardous waste manifest rules. This situation could occur because the generator failed to meet one of the conditions in § 266.41(d)(2)(i) of the proposal, or even though he may meet the conditions, company or State policy requires the use of the National Uniform Hazardous Waste Manifest. In this situation, the recycled oil transporter is functioning as any other hazardous waste transporter and would be regulated as such.

E. Shipments Without Manifests

As discussed above (in Section II of this Part of the preamble), EPA has proposed that generators who meet certain conditions may, at their option, comply with the special requirements of § 266.41(d)(2)(ii) in lieu of the hazardous waste manifest requirements. Also, transporters may collect from small quantity recycled oil generators under § 266.40(c)(2), and these generators are not subject to the manifest. In either instance, the transporter may accept recycled oil without a manifest and must comply with the proposed § 266.42(e) in lieu of Part 263, Subpart B of the hazardous waste regulations. The proposed § 266.42(e) requirements for transporters would be as follows:

1. **Records of acceptance.** Under § 266.42(e)(1), the transporter would have to record (for example on a log) certain information at each collection stop, specifically:

- The name, address, and when applicable,¹¹⁷ The generator's EPA identification number;
- The quantity of recycled oil accepted;
- The shipping description required by the U.S. DOT under 49 CFR Part 172; and
- The date the oil is accepted.

These records would help establish a line of accountability for the movement of the used oil to a recycler. Also, the shipping description provides certain information that may be helpful in case of a transportation accident. [In nearly all cases, the description of recycled oil would be: "Waste Oil; NA1270"; and either "combustible liquid" or "flammable liquid." See 49 CFR Part 172. If a generator does not know whether the oil is "combustible" or "flammable," the transporter would be advised to describe the oil as "flammable," (the more stringent category) to be on the safe side.] Finally, the transporter would have to keep these records for at least three years from the date of acceptance.

2. **Delivery.** As required by section 3014(c)(3) of the Act, EPA has proposed in § 266.42(e)(2) that transporters must deliver all recycled oil collected to a facility authorized to manage recycled oil.¹¹⁸ Also (under the proposed § 266.42(e)(2)(ii)) the transporter would have to deliver the oil to a facility designated by the generator. These "designated facilities" are those which have entered into appropriate agreements with the generator and who have notified the generator [under § 266.41(d)(2)(ii)(B)] that they are authorized to accept recycled oil.¹¹⁹ Delivery would have to occur within 35 days of acceptance, the same time limit as required under §§ 262.42 and 263.21 for manifested shipments of hazardous waste. The delivery time limit helps ensure that hazardous waste arrives promptly at the generator's intended destination. The Agency determined that 35 days was an adequate period of

¹¹⁵ Small quantity recycled oil generators need not obtain EPA identification numbers under today's proposal.

¹¹⁶ This would include those facilities permitted-by-rule under the special provisions of section 3014(d) of RCRA. [See the proposed § 270.60(d) for permit-by-rule conditions and requirements.] Facility permitting is discussed later in this preamble. The reader should note that the transporter may also deliver the recycled oil to a facility in interim status under section 3005(e) of RCRA and 40 CFR 270, Subpart G. See proposed § 266.40(e)(3) for the types of facilities authorized to manage recycled oil.

¹¹⁷ As discussed above in section II.A.4., collectors who accept from small quantity recycled oil generators would be required (in lieu of the generator) to ensure the receiving facility is authorized to accept recycled oil.

¹¹⁸ Id.

¹¹⁹ A facility could conduct incidental settling of bottom sediment and water and still qualify for the exemption. [This type of activity is not considered "reclamation."] Also, different used oils could of course be "blended," i.e., placed in a single tank. Operations that blend used oil with virgin fuel oil, however, are not within the intended scope of the proposed transfer facility exemption.

time for normal hazardous waste transport, taking into account storage at transfer facilities and any minor delays. EPA believes that since recycled oil collection and marketing is typically local or regional in nature, the 35-day limit would not interfere with normal recycled oil transportation activities. However, the Agency solicits comments on the 35 day time limit; are there circumstances where a longer time period, e.g., 45 days, would be necessary to ensure efficient transportation of recycled oil?

3. *Records of delivery.* When the transporter delivers the oil to the receiving facility, § 266.42(e)(3) would require him to record the following information:

- The name, address, and EPA ID number of the facility;
- The quantity of oil delivered; and
- The delivery date.

These records would have to be retained for 3 years from the date of delivery by the transporter, and would serve to provide another link in the line of accountability for the oil as it is recycled.

Comments are requested on all aspects of the approach proposed for regulating transporters.

IV. Standards for Owners and Operators of Used Oil Recycling Facilities

A. Applicability and General Approach to Regulation

Section 266.43 of today's proposal would apply to owners and operators of any facility that recycles or stores recycled oil.¹²⁰ The kinds of operators that would be subject to § 266.43 include reclaimers, reproducers, re-refiners, blenders, and burners. Facilities subject to any § 266.43 requirements are known as "used oil recycling facilities." With the exception of those generators who accumulate recycled oil under the special "90-day" rule in § 266.41(c)(2) of today's proposal, generators who store, accumulate, or recycle on-site would also be subject to § 266.43.¹²¹ And, as discussed above, with the exception of certain transfer facilities, transporter storage facilities would be subject to § 266.43. Finally, recyclers and reclaimers who do not store would be subject only to identification and notice requirements (§§ 264.11 and 264.12); to

waste analysis requirements (§ 266.43(b)(1)-(3)); and to recordkeeping requirements (§ 266.43 (e) and (f)), discussed below.¹²² [See the proposed § 266.43(a)(4).]

This last provision is analogous to § 261.8(c)(2) of the hazardous waste regulations. As discussed in the final solid waste rule [see 50 FR 652, January 4, 1985], at present we do not regulate the actual process of reclamation. The proposed § 266.43(a)(4)(ii) does make it clear that this exemption does *not* apply to facilities processing in an impoundment. Such a facility is not exempt because as we stated on January 4, 1985, surface impoundments are rarely considered a legitimate recycling device. [See 50 FR 652.] This is especially true in the case of used oil. Storage in an open impoundment allows petroleum loss through seepage, and water and dirt contamination. Petroleum products, for these reasons, are not typically stored or processed in impoundments. In summary, the coverage of § 266.43 is analogous to the coverage of the standards for hazardous waste recycling (and storage) facilities.

Before discussing the requirements of § 266.43 in detail, EPA must note that as a general policy, any facility storing, treating, or disposing of hazardous waste is subject to the section 3004 standards, *i.e.*, the standards for hazardous waste treatment, storage, and disposal facilities in 40 CFR Parts 264 and 265. Congress did not exempt used oil recycling facilities from this general requirement, as they did for generators and transporters under section 3014(c)(1) with respect to sections 3001(d), 3002, and 3003. [In fact, the Conference Report states that "... facilities which recycle used oil will need to comply fully with the standards applicable to owners and operators of any hazardous waste treatment, storage, and disposal facility." See H.R. Conf. Rep. No. 1133, 98th Cong., 2 Sess. at 113 (1984).]

Section 3014(d) also provides that, except for certain kinds of facilities, used oil recycling facilities that comply with the section 3004 standards are deemed to have a RCRA permit. In other words, these facilities would not normally be subject to section 3005 of the Act, nor to section 7004, which specify procedures for permitting of hazardous waste facilities. The § 266.43 standards, therefore, are based on

RCRA section 3004 but are intended to be implemented through a special permit-by-rule procedure, discussed in the next section of the preamble.

Section 3014(d), however, also grants EPA the authority to permit used oil recycling facilities individually under section 3005(c) if EPA determines that individual permitting "... is necessary to protect human health and the environment." The following kinds of facilities have been determined by EPA to be inappropriate for the permit-by-rule approach, and would be permitted individually:¹²³

- Facilities where used oil is stored or treated in a surface impoundment or used in a manner constituting disposal; and
- Facilities that manage other hazardous waste in addition to recycled oil.

The reasons that these kinds of facilities have been deemed not eligible for the section 3014(d) permit-by-rule are discussed in the "permitting" section of the preamble, (the section after this one). A point that is relevant here is that these facilities would be subject to 40 CFR Part 270 Subpart G, the requirements for interim status hazardous waste treatment, storage, and disposal facilities *as well as* proposed § 266.43. [See proposed § 266.43(a)(5)(i).]^{124, 125}

What follows is a detailed discussion of the standard proposed for used oil recycling facilities in § 266.43. The reader is referred to 45 FR 33158-33220, May 19, 1980 for an explanation of the 40 CFR Part 264 and Part 265 standards for hazardous waste facilities, and to 48 FR 2802-2897, January 12, 1981, for certain additions to Parts 264 and 265. As discussed above, these standards would, in general, apply to used oil recycling facilities. However, EPA is proposing in § 266.43 some variations to the hazardous waste standards for used oil recycling facilities and these differences are discussed here. [Permitting requirements are discussed in the next section of the preamble.]

These proposed variations would not substantially change the level of protection achieved, but rather are

¹²⁰ See § 270.60(d)(1) of today's proposal.

¹²¹ The reader should note that EPA does not grant interim status. The criteria for determining interim status eligibility are specified in RCRA section 3005(e) and 40 CFR Part 270, Subpart G. A facility that does not qualify for interim status and does not have a permit is subject to enforcement action if it continues operation. See § 270.70(b).

¹²² For a facility that is already permitted, the permit would have to be modified to allow management of the newly regulated hazardous waste (*i.e.*, recycled oil). See § 270.41 and 124.5 for permit modification procedures.

¹²³ The reader is reminded that the term "recycled oil" as used here does not include list exempted from regulation. For example, § 266.40(b) conditionally exempts specification fuel and certain asphalt products from Subpart E. Facilities accepting only these recycled oils would be subject to § 266.43.

¹²⁴ Small quantity recycled oil generators who recycle on-site under § 266.40(c)(1) would also not be subject to § 266.43.

¹²⁵ The owner or operator may also be subject to § 266.40(b), if he produces one of the conditionally exempt oils; to § 266.41(d), if he ships recycled oil off-site; to § 266.23 if recycled oil is used in a manner constituting disposal; and to § 266.44 if he burns recycled oil. The latter two practices are discussed later in this section.

necessary to implement the special recycled oil permitting (and tracking) system mandated by Section 3014.

B. Waste analysis requirements

Under 40 CFR 264.13, owners and operators of hazardous waste facilities must comply with a general set of requirements to ensure that all of the information needed for proper waste management is available. Sampling and analysis parameters and procedures must be specified in a waste analysis plan, which becomes part of the facility's permit. EPA has determined that in the case of used oil recyclers, much of the waste analysis plan can be specified in the rule itself. The special analytical requirements for used oil recyclers are proposed in § 266.43(b) (1)-(3), and would replace the 40 CFR § 264.13 requirements. The special requirements are equivalent to § 264.13 in protectiveness but are more specific; this should simplify compliance.¹²⁶

1. *Parameters.* All used oil recyclers must develop or obtain information concerning the first two of the parameters below, and many would need information on the third. Only operators of hazardous waste facilities need be concerned with the fourth group of parameters.

a. *Halogens:* As discussed in Section I.A.4. above, we are proposing that any used oil containing in excess of 1000 ppm total halogens will be presumed to have been mixed with hazardous waste (and therefore is not "recycled oil") unless a person successfully rebuts the presumption. Therefore, the owner or operator must determine the halogen content of used oil accepted at the facility. This does not necessarily mean that the used oil must be sampled and analyzed for halogens. Nonetheless, if used oil with over 1000 ppm halogens is accepted at the facility, the owner or operator must either rebut the presumption of mixing (by showing that the used oil has not been mixed with hazardous waste) or manage the oil as hazardous waste (not recycled oil). If EPA (or a State agency) samples used oil at a facility and finds total halogens exceeding 1000 ppm and the presumption cannot be successfully rebutted, the owner or operator must be in compliance with all applicable Part 264 or 265 hazardous waste requirements (and the Part 270 permit or interim status requirements), not today's

proposed recycled oil standards. Otherwise, the owner or operator is subject to enforcement action for violations of applicable Subtitle C requirements.

EPA expects that some used oil recyclers will, on a routine basis, accept recycled oil that is high in total halogens but that has not been mixed with hazardous waste. The most common such cases are expected to be processors of used chlorinated metalworking oils and re-refiners. In the former case, some metalworking fluids contain high levels of chlorinated extreme pressure additives that are not listed as hazardous constituents in 40 CFR Part 261, Appendix VIII. These processors, we expect, will conduct analysis to document that hazardous constituents are not present at significant levels (e.g., generally less than 100 ppm) in the used oil they accept, and that therefore the 1000 ppm total halogen presumption does not apply. Re-refiners, by contrast, often produce light end streams high in total halogens because low boiling point solvents are present at low levels in incoming used oil, and distillation or dehydration concentrates the "low boilers" in the light ends. In this case, if used oil accepted does not exceed the 1000 ppm total halogen level, the presumption would not apply to the light ends produced.

Finally, in either of the above cases, the reader should note that the recently promulgated final Phase I established a specification for used oil fuels of 4000 ppm total halogens. [See the preamble of the final Phase I rule, Part Two, Sections IV.B. and IV.C.] When a recycler establishes that the 1000 ppm presumption does not apply, he must nonetheless document compliance with 4000 ppm limit in order to market (exempt) specification fuel. [Id.]

b. *Ignitability:* Under Part 264, certain special standards apply to ignitable hazardous waste.¹²⁷ [See 40 CFR 264.176, 264.198 and 264.229.] The owner or operator must, therefore, determine if the oil received exhibits the characteristic of ignitability. Alternatively, the owner or operator could simply manage all recycled oil he accepts as ignitable waste. In this case, analysis to determine flashpoint may not be necessary.

c. *Fuel specification:* As discussed in Section I.C. of today's proposal, EPA has

proposed to carry forward the exemption for specification fuel (Table 1 above). The owner or operator of a facility producing specification fuel would have to document that in fact the specification is met. [See § 266.40(b)(1) of today's proposal.] Therefore, analysis of the specification parameters—namely, arsenic, cadmium, chromium, lead, halogens and flashpoint—would be necessary.

d. *Additional parameters:* In addition to the analytical requirements described above, the owner or operator of a facility where other hazardous wastes in addition to recycled oil are managed would have to comply with additional requirements. [See § 266.43(b)(1)(iv) of today's proposal.] The owner or operator would have to identify at least one indicator parameter for each hazardous waste managed at the facility. For wastes listed in 40 CFR Part 261, Subpart D, the indicator parameter would normally be one of the constituents identified in Appendix VII of Part 261 as a basis for listing. Where the Appendix VII constituent is, however, also a normal contaminant of used oil, the EPA permit writer may specify one or more other indicator parameters.¹²⁸ Recycled oil managed at facilities along with other hazardous wastes would have to be analyzed for these indicator parameters (along with total halogens) to help document that mixtures of hazardous waste and recycled oil are not being managed under Part 266, Subpart E.¹²⁹ [Such mixtures are hazardous waste, subject to 40 CFR Parts 261-266, Subpart D.] As an alternative to the special sampling and analysis requirements discussed above, EPA considered whether hazardous waste facilities should simply be prohibited from handling recycled oil.¹³⁰ This would simplify enforcement. The Agency is concerned, however, that many hazardous waste facilities can properly manage recycled oil without mixing, and that it would be unfair not to allow management of both types of

¹²⁶ As discussed above, a facility managing both recycled oil and other hazardous waste would be permitted individually, not by-rule. Interaction between the owner or operator and the EPA permit writer will therefore be possible in selecting these indicator parameters. EPA is, however, concerned that this provision, because it is not self-implementing, may not work effectively during interim status. This problem is discussed below.

¹²⁷ The reader should note that an owner or operator remains subject to §§ 265.13 and 264.13 for any other hazardous waste that he manages.

¹²⁸ A similar approach would be for EPA to presume that any used oil managed at a hazardous waste facility is mixed with hazardous waste. Under this kind of approach, a person might or might not have the opportunity to rebut the presumption through analysis.

¹²⁹ Part of the simplification comes from the fact that used oil is a fairly stable liquid, e.g., it is not reactive nor volatile. Also, used oil is not corrosive. Therefore, the information needed to manage this waste is narrowed as compared to the variety of hazardous wastes some facilities may manage.

¹³⁰ An ignitable waste, as defined in 40 CFR 261.21, has a flashpoint of less than 140 °F. Approximately 28% (80 of 289) of the used oil analyses EPA reviewed exhibited this characteristic. See *Composition and Management of Used Oil Generated in the U.S.* by Franklin Associates, Ltd., November 1984; p. 3-5A.

materials. EPA requests comment on this alternative (and on the variations described in footnote 130, below). EPA specifically requests comment on applying the prohibition during interim status. During this period, § 266.43(b)(1)(iv) would not be fully effective because EPA would not yet specify indicator parameters and therefore no direct control beyond the rebuttable presumption would be in place to document the "no-mixing" rule. Should co-management (of recycled oil and other hazardous wastes) be allowed only at permitted facilities? [Under this approach, the prohibition would supplement, but not replace the proposed § 266.43(b)(1)(iv).]

2. *Analysis plans.* As required for all hazardous waste facilities under § 264.13(b), we are proposing that the owner or operator of a used oil recycling facility must develop and follow a written plan describing his sampling and analysis procedures.¹³¹ Under today's proposal [§ 266.43(b)(2)(iii)], the owner or operator would have to describe the following kinds of arrangements made to comply with the analysis requirements.

a. *Halogens and flashpoint:* The owner or operator may obtain information on halogen content and flashpoint of the oil he accepts by obtaining data, information, or samples from generators, and/or by sampling incoming shipments. The analysis plan would have to describe these arrangements, e.g., which (if any) generators would be providing information on the halogen or flashpoint content of oil they generate, vs. a schedule of sampling incoming shipments. In either case, it is the responsibility of the owner or operator to ensure used oil high in halogen (exceeding the rebuttable presumption) is managed as a hazardous waste and to ensure ignitable used oil is managed under the special requirements for ignitable hazardous waste.

b. *Specification fuel:* The owner or operator would have to describe at what point(s) in his fuel production process the oil would be sampled to document compliance with the fuel specification. For example, he could designate certain tanks "for product only" and test these tanks when near full, or alternately, he could analyze his incoming used oil and the virgin fuel oil used for blending and then blend at a certain ratio designed to

meet the specification. (In this case, he may not need to analyze the final product.) In any case, a shipment sent off-site is subject to § 266.41(d) (of the generator requirements) of today's proposal *unless* the requirements of § 266.40(b)(1) for specification fuel are complied with. Whenever a person initiates a shipment without complying with § 266.41(d) (or he burns without complying with § 266.44) because he claims to have specification fuel, he is responsible for obtaining the necessary documentation as required by § 266.40(b)(1), including analysis of the specification parameters.

c. *Frequency:* For all of the analyses described above, the owner or operator would have to specify in the plan the frequency of sampling and analysis. The owner or operator must perform sampling and analysis on a schedule that is adequate to meet all applicable requirements. [See proposed § 266.43(b)(1).] EPA considered whether some minimum frequency should be specified for the various kinds of sampling and analysis required under today's proposal, but we have been unable to develop a schedule that would appropriately take into account the many facility-specific variables that affect sampling and analysis frequency. For example, if weekly sampling and analysis is specified, different size facilities would be affected very differently, e.g., some operations process 100,000 gallons in a week, and others only 10,000 gallons. In some operations where specification fuel is produced, the owner or operator might use a large tank to hold the "product" fuel and test only when the tank is full (which may not mean weekly testing). In other operations, for example where on-site lab facilities are available, daily testing may be feasible.

Comments are requested on the need for a specific sampling and analysis schedule. To encourage public comment on this subject, EPA has included in Table 5 below a schedule adapted from one used by the State of Rhode Island as permitting guidance for used oil burners. Comments are requested on whether this or a similar schedule should be specified by-rule for used oil recycling facilities.

TABLE 5.—EXAMPLE OF A SAMPLING AND ANALYSIS SCHEDULE FOR USED OIL RECYCLING FACILITIES (SAMPLES ANALYZED PER YEAR)

Analysis parameter	Facility throughput (gallons/week)			
	<2,000	2-6,000	6-15,000	15,000+
Lead (and other metals)	4	12	26	52
Halogens	4	12	26	52

TABLE 5.—EXAMPLE OF A SAMPLING AND ANALYSIS SCHEDULE FOR USED OIL RECYCLING FACILITIES (SAMPLES ANALYZED PER YEAR)—Continued

Analysis parameter	Facility throughput (gallons/week)			
	<2,000	2-6,000	6-15,000	15,000+
Flashpoint	2	4	12	26

Notes:

1. Samples would be analyzed on a regular schedule, e.g., 12 samples per year means one per month.
2. Samples are taken from each load sent off-site and blended into a composite sample, for analysis on a schedule as above.

Source: Adapted from Rhode Island's Air Pollution Control Regulations Number 20, *Burning of Alternative Fuels*, Appendix B. See the letter from Rhode Island Department of Environmental Management, March 29, 1985.

The reader should note that if EPA did promulgate a sampling and analysis schedule like the one in Table 5, compliance with the schedule would be an independently enforceable provision. That is, the owner or operator would still be responsible for ensuring that all applicable requirements pertaining to, for example, producing specification fuel are complied with *as well as* compliance with the schedule itself.

All of the requirements described above for analytical plans would help EPA determine whether a facility has the means and intentions of complying with the proposed standards. Under the proposed § 266.43(b)(3), records of analysis would have to be kept at the facility as part of the operating record for the operating life of the facility.

Comments are requested on the analytical requirements described above.

C. Acceptance of Recycled Oil From Off-Site

An important purpose of EPA's hazardous waste regulations is to establish a line of accountability when waste is shipped from a generator's site to another facility. The requirement for a receiving facility to keep records of wastes they accept from off-site helps complete the tracking system and provides information for owners, operators, and inspection officials concerning the nature of wastes managed at a facility.

1. *Manifested recycled oil.* When receiving manifested recycled oil, the owner or operator must comply with the following requirements from the hazardous waste regulations:

- Section 264.71 requires the owner or operator to sign and date the manifest and return a copy to both the generator and the transporter, and retain a copy for himself for a minimum of three years;
- Section 264.72 requires the owner or operator to reconcile significant manifest discrepancies with the

¹³¹ Acceptable analytical procedures under the hazardous waste regulations (including procedures for oily wastes) are included in the EPA publication SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, Second Edition, 1982. See § 260.11, "references."

generator or transporter, and if not able to do so, to file a report with EPA's Regional Administrator; and

- Except as discussed below (pertaining to special arrangements and the manifest exemption) § 264.76 requires that when hazardous waste unaccompanied by a manifest is accepted the owner or operator must file a report with the EPA Regional Administrator.

2. *Unmanifested recycled oil.* As discussed above in Section II.B.4. of this preamble, EPA has proposed that under certain conditions generators may ship recycled oil without using the manifest.¹³² Under these circumstances, the owner or operator would comply with § 266.43(e)(2) of today's proposal in lieu of §§ 264.71 and 264.72.¹³³

Section 266.43(e)(2) would require that, for each acceptance, the owner or operator would have to record the following:

- The name, address, and EPA identification number of the transporter who delivered the shipment;
- The name, address, and EPA identification number of each generator who contributed to the shipment. [The transporter is required to keep this information and the owner or operator, may, for example, obtain a copy of the transporter's collection log.]
- The quantity of recycled oil in the shipment; and
- The date of acceptance.

These records would have to be kept for a minimum of three years (from the acceptance date). As discussed previously, the recordkeeping requirements proposed today, in conjunction with the condition that a recycling arrangement exists, provides a tracking system virtually as protective as the hazardous waste manifest, while still complying with the directive in section 3014(c)(2)(B) of the Act (to not impose the manifest).

3. *Receipt of hazardous waste mixtures.* EPA is proposing that when an owner or operator receives a shipment of used oil that he believes to have been mixed with other hazardous waste (e.g., when it contains total halogens in excess of 1000 ppm), he must take action

as described here. [Proposed § 266.43(e)(3).]

a. *Acceptance of shipment:* Facilities may only accept hazardous wastes specifically described in their RCRA permits.¹³⁴ Since mixtures of used oil and other hazardous waste(s) are not "recycled oil," a facility receiving such mixtures would have to be permitted to accept both used oil and the other waste(s) in the mixture (e.g., spent trichloroethylene, etc.). A facility not permitted to accept such mixtures must turn away the shipment.¹³⁵ A facility permitted to accept the wastes in the mixture may do so, but the mixture must be managed as hazardous waste (not as recycled oil).

b. *Unmanifested shipments:* In addition to the requirements described above pertaining to acceptance of used/oil hazardous waste mixtures, if the shipment is not manifested an owner or operator must comply with § 264.76 pertaining to "unmanifested waste reporting." That is, the owner or operator must submit a report to EPA within 15 days as specified in § 264.76.

D. Storage in Tanks

We discuss here how tanks used to reclaim or store recycled oil would be regulated under today's proposal first in general, and then taking into account two on-going EPA rulemakings.

1. *General.* EPA is proposing that all owners or operators of used oil recycling facilities be subject to the tank storage standards of Part 265, Subpart J, but only those owners and operators who must obtain individual permits would be subject to Part 264, Subpart J.¹³⁶ [See the proposed § 266.43(h)(2).] EPA is not proposing to require all owners or operators to comply with Part 264, Subpart J because we do not believe that § 264.191(a), the "shell thickness" design standard, can be effectively implemented through a permit-by-rule.¹³⁷

¹³² Facilities in interim status may accept wastes identified in their "Part A" permit application. [See §§ 270.71, 270.72.] The reader should also note that we are today proposing a special permit-by-rule [See proposed § 270.60(d)] for certain facilities managing recycled oil.

¹³³ In this case, the transporter must take the shipment to an alternate facility, if one is designated by the generator, or return the waste to the generator. [See § 262.20.]

¹³⁴ As explained above and in the next section of the preamble, some facilities are not eligible for the permit-by-rule. [See proposed § 270.60(d)(1).] Also, some facilities may be required to obtain individual permits on a case-by-case basis. [See the proposed § 270.60(d)(3).]

¹³⁷ Except for the shell thickness requirement, Subpart J of Parts 264 and 265 are virtually identical.

[See 46 FR 2831-32 for a discussion of the shell thickness rule and the permitting interaction necessary to implement the rule.] The Part 265 standards, by contrast, are designed to be self-implementing and so are more amenable to a permit-by-rule approach.¹³⁸

2. *Revisions to the tank standards.* EPA proposed on June 26, 1985 to revise Part 265, Subpart J, and Part 264, Subpart J to include requirements for secondary containment (among other requirements) for most aboveground, underground, and in-ground tanks used for storing hazardous waste. [See 50 FR 26444.] This proposal is relevant to the present discussion because as stated above used oil recycling facilities are subject to Section 3004, i.e., to Parts 264 and 265. Therefore, amendments to Part 264 or 265 would apply to used oil recycling facilities when final. Figures 1 and 2 above present some of the requirements proposed on June 26. The reader is advised to review the June 26 Federal Register proposal in its entirety for a full understanding of the proposed revisions. The public is invited to comment on the proposed tank rules, and alternatives presented at 50 FR 26451-53, as they would apply to recycled oil.¹³⁹ Commenters should consider the following in preparing comments:

(1) Used oil recycling facilities are, under Section 3014, to be subject to the Part 264 and 265 requirements. Any regulatory distinction made for recycled oil must be based on technical factors, not adverse economic impacts.¹⁴⁰ Since used oil is very similar to other hazardous wastes stored in tanks (i.e., it is liquid, it contains toxic and carcinogenic constituents), we have proposed that used oil recycling facilities will be regulated the same as hazardous waste treatment and storage facilities. [The reader should note one important difference. As discussed above, specification fuel (a recycled oil low in contaminants) would be exempt

¹³⁸ EPA considered requiring all facilities to comply with Part 264, Subpart J, and to obtain individual permits. Since nearly all used oil recyclers store in tanks, however, this would effectively negate the section 3014(d) permit-by-rule Congress envisaged. This would appear contrary to congressional intent, i.e., the language of section 3014(d) specifically includes "tank and container storage" within the scope of the permit-by-rule.

¹³⁹ The *Regulatory Impacts Analysis* for today's proposal includes the costs of the proposed new standards.

¹⁴⁰ This in contrast to the requirements for recycled oil generators, where the reader will note that because of RCRA requirements have been reduced to mitigate adverse impacts on generators.

¹³² As described in Section II.A., above, small quantity recycled oil generators need to comply with no requirements when initiating an off-site shipment. [See proposed § 266.40(c)(2).] Large generators may comply with alternate recordkeeping requirements in lieu of the manifest if certain conditions pertaining to recycling contracts are met. [See proposed §§ 266.41(d)(2) and 266.42(e)(2).]

¹³³ And when recycled oil is accepted under these conditions, the owner or operator would, of course, not be required to file an unmanifested waste report under § 264.76.

from all requirements, including the storage requirements discussed here.]

(2) Some of the proposed new Part 264 standards would require a great deal of interaction between the permit applicant and the permitting official.¹⁴¹ [See, for example, the proposed §§ 264.191 pertaining to design of tank systems, and 264.192(e) pertaining to corrosion protection.] Therefore, we would not change the policy proposed above to require Part 264, Subpart J only for those facilities that must be permitted individually. We believe the proposed Part 265, Subpart J requirements (see Figures 1 and 2 for some of the requirements) are self-implementing, protective, and amenable to a permit-by-rule approach.

3. *Reclamation in tanks.* Under 40 CFR 261.6(c), EPA regulates the storage of hazardous waste prior to (and in some cases following) reclamation. Further, the Part 264/265 Subpart J tank standards apply to treatment tanks; these standards, however, do not apply when hazardous waste is actually being reclaimed in a tank. (See 45 FR 33093, May 19, 1980; and 50 FR 652, January 4, 1985.) Tanks used for "incidental settling," however, are not meant to be exempt from the Subpart J standards. [Id.]¹⁴² EPA recognizes that this policy requires specific interpretation as it would apply to used oil recyclers, because virtually all used oil recycling facilities perform at least some minimal amount of reclamation.

First, some devices (which may arguably be "tank-like") such as distillation columns at re-refineries are clearly used for recycling and would not be subject to Subpart J. Many tanks, however, are used for settling and blending, and it may not be obvious whether the tank is used primarily for storage vs. recycling. EPA currently addresses this question on a case-by-case basis. An owner or operator who claims to be exempt from Subpart J because the device is used for recycling bears the burden of proof to document the claim. [See the discussion at 50 FR 642, January 4, 1985, relating to similar exemptions and variances.] EPA requests comment on whether specific criteria should be added to the rules (or whether detailed guidance should be provided) to aid owners, operators and enforcement officials in determining

when a tank may be exempted under the above-described recycling policy.

E. Uses Constituting Disposal

On January 4, 1985, EPA promulgated 40 CFR Part 266, Subpart C for hazardous wastes used or reused in a manner constituting disposal. [See 50 FR 627-629.] Under § 266.23, hazardous wastes (or those products which contain hazardous waste) applied to or placed directly on the land are subject to the land disposal standards of Part 264, Subpart A-N, e.g., users of such "products" are fully regulated as land disposal facilities.¹⁴³ Further, Part 266, Subpart C was recently revised on July 15, 1985 to incorporate the statutory prohibition (section 213(1) of the Hazardous and Solid Waste Amendments of 1984) on the use of hazardous waste as a dust suppressant. [See 50 FR 28718.] Therefore, when EPA lists used oil as a hazardous waste (proposed today else where in this Federal Register), road oiling would be prohibited.

A used oil recycling facility where recycled oil is used in a manner constituting disposal (according to § 266.20) would be subject to the same standards (§ 266.23) as apply to any hazardous waste used in this manner.¹⁴⁴ As described above, recycled oil is not exempt from section 3004, and the requirements of § 266.23 (issued under section 3004) have been deemed necessary by EPA, and in the case of the dust suppression ban, by Congress, for all hazardous wastes used in this manner.

F. Burning for Energy Recovery

Today's proposal does not include air emissions standards pertaining to the burning of recycled oil as fuel. As explained in Section II of Part One of this preamble, EPA recently promulgated Phase I of its Section 3004 burning standards and we plan to

propose Phase II (the technical controls) early next year.¹⁴⁵ Today's proposal, however, would impose certain requirements on facilities that produce, market, or burn recycled oil as fuel.¹⁴⁶ These are discussed here.

1. *Facility standards.* Burners of off-specification used oil would be subject to some or all of the requirements for used oil recycling facilities in the proposed § 266.43. Storage of recycled oil at a burner facility poses the same hazards as storage at any other type of recycling facility. Further, in EPA's view, burners are within the scope of section 3014(d) which requires compliance with the section 3004 standards. Finally, generators who burn on-site will be subject to the burning standards of § 266.44 (when promulgated) as well as the § 266.41 generator requirements discussed above.

2. *Fuel transportation.* Under today's proposal, any person initiating a shipment of recycled oil (including off-specification fuel) off-site would be subject to § 266.41(d) of the generator standards.¹⁴⁷ [This provision would eventually replace the requirements for "marketers of used oil fuel" in the Phase I burning and blending rule.] Under § 266.41(d), off-site shipments would either be subject to the hazardous waste manifest or if the recycling agreement conditions of § 266.41(d)(2)(i) are met, to the special recordkeeping requirements of § 266.41(d)(2)(ii). [See the "generator" discussion, above.] We discuss here first, how today's proposal would alter requirements applicable to fuel marketers promulgated in the Phase I burning rule, and second how today's proposal would fulfill the section 3004(r) labeling requirements.

a. *New requirements for marketers:* In the final Phase I burning rule, EPA promulgated § 266.43 requirements for marketers. [In the final Phase I preamble, see Part Four, Section I.] This section includes certain notice, invoice, and recordkeeping requirements to control shipments of off-specification fuel. [Id.] The requirements proposed today pertaining to shipment of recycled oil [proposed § 266.41(d), applicable to owners and operators of used oil

¹⁴³ As explained in Section I.C., above, § 266.20(b) conditionally exempts hazardous wastes incorporated into commercial products (produced for the general public's use) where the hazardous waste becomes inseparable from the product. EPA has identified those recycled oils which meet these criteria and included the conditional exemption in the proposed §§ 266.40(a)(2)(ii) and 266.40(b)(2). The controls described here would not apply to these exempt recycled oils. The reader should note the § 266.40(b)(2) products are the only recycled oils we have found that meet the § 266.20(b) criteria; therefore, other recycled oils applied to or placed directly on the land would be regulated under § 266.23 as land disposal.

¹⁴⁴ Sections § 266.21 and § 266.22, respectively, include standards for generators, transporters, and storers of hazardous waste used in a manner constituting disposal. These requirements would not apply to recycled oil. As explained above, generators, transporters, and storers of recycled oil would be subject to proposed §§ 266.41-266.43.

¹⁴⁵ The reader will note that we have "reserved" § 266.44 for controls on burners. This is where an emissions standard, when developed, would be placed.

¹⁴⁶ The standards discussed here would not apply to specification fuel exempted from regulation under §§ 266.40(a)(2)(i) and 266.40(b)(1). For convenience, we will use the term "off-specification fuel" (the same term we used in the Phase I burning rule) to describe recycled oil subject to the regulations discussed in this section.

¹⁴⁷ See the proposed §§ 266.41(a)(2) and 266.43(a)(2)(ii).

¹⁴¹ The reader should note that we have proposed to delete the § 264.191 "shell thickness" requirement. [See 50 FR 26456-59; June 26, 1985.]

¹⁴² That is, the tank must actually be an integral component of a recycling system, not merely a storage tank in which some settling happens to occur. The Part 264/265 Subpart J tank standards apply to storage (and treatment) tanks.

recycling facilities under § 268.43(a)(2)(ii) are different from the recently promulgated marketer standards in the following ways:

(1) Under today's proposal, shipments of recycled oil would be subject to the hazardous waste manifest unless the conditions of proposed § 268.41(d)(2)(i) pertaining to recycling contracts are met. In this case, proposed § 268.41(d)(2)(ii) would require notice and recordkeeping requirements very similar to the current § 268.43 marketer standards. As discussed above (in the "generator" discussion, Section II. B. 4. of this Part of the preamble), this approach is based on Section 3014(c)(2)(B) of the Act. The proposal is different than current § 268.43 in that if the recycling contract conditions are not met, the hazardous waste manifest would apply.

(2) The reader may note that the current § 268.43(b)(4)(vi) of the marketer standards requires a statement on the invoice as follows: "This used oil is subject to EPA regulation under 40 CFR Part 268," while today's proposal does not contain such a requirement. We believe the requirements proposed today render this label unnecessary. This is discussed next in the context of the RCRA Section 3004(r) labeling requirement.

b. *Labeling of fuel shipments:* Section 3004(r) requires that any fuel made from hazardous waste must bear a warning label stating that the fuel contains hazardous waste, and listing the contents contained therein. [See 50 FR 28724-25; July 15, 1985.] Listing used oil as hazardous waste (proposed elsewhere in this Federal Register) would trigger this labeling requirement. In fact, EPA recently promulgated the Phase I labeling requirement for off-specification used oil fuel (even though used oil is not currently a hazardous waste) in response to the Congressional concern with persons unknowingly receiving contaminated fuels. [See 50 FR 1704; January 11, 1985.] We believe, for the following reasons, today's proposal renders the warning label requirement unnecessary by fulfilling the same functions as would a label.¹⁴⁸

(1) For those shipments of off-specification fuel that are manifested, clearly a warning label would be redundant and unnecessary. [Id.]

(2) To be exempt from manifest requirements, the fuel seller and purchaser must have a recycling

agreement; further, facilities that receive off-specification fuel (including burners) must be authorized to manage recycled oil and would be subject to the proposed § 268.43 requirements for used oil recycling facilities. In this situation, i.e., where the receiving party would be regulated, a warning label also seems unnecessary.

3. *On-site burning of de minimus quantities.* Section 3004(q)(2)(B) provides that EPA may exempt on-site burning of *de minimus* quantities of hazardous waste (to be defined by the Administrator), provided certain conditions are met. EPA is currently considering whether such an exemption is appropriate for recycled oil generators. Any exemption of this sort would be proposed with the Phase II burning and blending rules early next year.

G. Corrective Measures

Section 3004(u) of RCRA, as amended, requires EPA to develop standards pertaining to corrective action for releases of hazardous waste or hazardous constituents¹⁴⁹ from solid waste units at facilities seeking permits under section 3005(c) (including releases that occurred in the past).¹⁵⁰ EPA amended Parts 264 and 270 to include provisions to implement this requirement. [50 FR 28711-16; July 15, 1985.] The requirements are to be administered during the facility permitting process. These corrective action requirements would apply, therefore, to all used oil recycling facilities that are required to obtain individual facility permits under section 3005(c). [See proposed § 270.60(d)(1), which would exclude certain facilities from the permit-by-rule, and proposed § 270.60(d)(3), which specifies criteria EPA would use in determining on a case-by-case basis when an individual permit is necessary.] In fact, as discussed in the next section of the

¹⁴⁸ See Part 261, Appendix VIII, for the list of hazardous constituents.

¹⁴⁹ The reader should note that releases of oil and/or hazardous substances trigger certain other EPA requirements as well. Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), a person in charge of a vessel or facility having knowledge of a release to the environment from that vessel or facility of a quantity of a hazardous substance at or above the reportable quantity of that substance must report that release to the National Response Center (NRC). In the case of used oil, EPA is proposing a reportable quantity of 100 pounds. See the listing proposal elsewhere in this Federal Register. If the discharge of the used oil occurs in a navigable waterway and is sufficient to cause a sheen on the water, then the discharge must also be reported to the NRC pursuant to regulations promulgated by EPA under section 311 of the Clean Water Act. [40 CFR Part 11C.]

preamble, one criterion EPA will consider in determining which facilities should be individually permitted is the need for corrective measures at a facility.

V. Permitting of Used Oil Recycling Facilities

This section of the preamble discusses EPA's proposed approach to implement the permitting provisions of section 3014(d) of the Act. Most used oil recycling facilities would, under today's proposal, be permitted-by-rule; in contrast, most other hazardous waste facilities are (usually after an "interim status" period) permitted individually. This special approach is undertaken due to the special section 3014(d) mandate for recycled oil. We discuss next the eligibility criteria for this special permit-by-rule, the requirements that apply to facilities permitted-by-rule, the provisions for modifications to the permit-by-rule, and the duration of the permit-by-rule. Some facilities would not be eligible for the permit-by-rule; the owners or operators of these facilities would have to obtain individual facility permits. We do not discuss procedures for individual facility permitting here as these procedures have been established for hazardous waste facilities through previous rulemakings. [See 40 CFR Part 272, and 48 FR 14228; April 1, 1983.] Finally, we discuss the issue of interim status for used oil recycling facilities, and then some enforcement principles that would apply to all used oil recyclers.

A. Eligibility for Permit-by-Rule

Section 3014(d) provides that owners and operators of used oil recycling facilities¹⁵¹ are deemed to have a permit for their recycling activities and associated tank and container storage, provided the owner or operator complies with the standards for hazardous waste treatment and storage facilities promulgated by EPA under section 3004.¹⁵² EPA is authorized under section 3014(d) to permit used oil recycling facilities individually as necessary to protect human health and the environment. EPA has proposed to exclude certain kinds of facilities from the permit-by-rule and has proposed

¹⁵¹ The term "used oil recycling facility" is used for convenience to describe those facilities subject to § 268.43 of today's proposal, e.g., processors, refiners, and burners of off-specification fuel.

¹⁵² The reader is reminded that used oil being disposed of without recycling would be subject to full regulation under 40 CFR Parts 262-265 and facilities disposing of used oil (or storing or treating used oil before disposal) would be permitted individually under Part 270.

¹⁴⁸ Today's proposed rules for recycled oil are issued under the joint authorities of sections 3004 and 3014 of RCRA. As such, section 3004(r) allows EPA to supersede the statutory warning label with regulations.

criteria for case-by-case determinations for when individual permitting is necessary.

1. *General exclusions from the permit-by-rule.* EPA has determined that permitting-by-rule is inappropriate for the following kinds of facilities:

- Recycled oil is stored or treated in a surface impoundment;
 - Recycled oil is used or reused in a manner constituting disposal;
- Other hazardous wastes are managed at the facility in addition to recycled oil. [See the proposed § 270.60(d)(1).]

a. *Surface impoundment storage:* Section 3014(d) provides that treatment, recycling, and associated *tank and container* storage may be permitted-by-rule. Storage or treatment of recycled oil in a surface impoundment is not included in the statutory language, and the legislative history indicates the omission was deliberate. [See H.R. Rep. No. 96-198, 98th Cong., 1st Sess., at 69 (1983). Surface impoundment storage is used as an example of an activity meant to be permitted individually.]

b. *Uses constituting disposal:* The standards for persons using hazardous waste in a manner constituting disposal (§ 266.23, which references Part 264, Subparts A-N) cannot, in EPA's view, be effectively implemented through a permit-by-rule,¹⁵³ but rather must be implemented through individual facility permitting.¹⁵⁴ See, for example, the Part 264, Subpart F ground-water monitoring requirements. The EPA Regional Administrator must specify certain requirements in §§ 264.91(b), 264.93(a), 264.94(a), 264.94(b), 264.95(a), and 264.96(a).

c. *Hazardous waste facilities:* The third group of facilities that would be excluded from the permit-by-rule under today's proposal are facilities that manage other hazardous wastes in addition to recycled oil. These facilities are likely sources of hazardous waste/used oil mixing,¹⁵⁵ and they therefore

require the additional scrutiny provided by individual facility permitting.^{156, 157}

Finally, as discussed in Section IV.B. above, EPA has proposed special analytical requirements for facilities managing both recycled oil and other hazardous wastes [the proposed § 266.43(b)(1)(iv)]. In general, we have made the analytical requirements self-implementing, but the special requirements for facilities managing both recycled oil and other hazardous waste require interaction between EPA and the owner or operator and are best implemented with the significant Agency oversight provided by facility permitting.

2. *Case-by-case exclusions.* In § 270.60(d)(3) of today's proposal, EPA has included provisions under which the Regional Administrator (or the Director of an authorized State hazardous waste program) may require the owner or operator of a used oil recycling facility, on a case-by-case basis, to apply for an individual RCRA permit. The basis for requiring an individual permit would be the receipt of information (through site inspection, or other means) indicating that any of the following situations exist at the facility.¹⁵⁸

- The owner or operator is not fully in compliance with one of the permitting requirements of § 270.60(d)(2), discussed below; or

- The facility, because of the quantities of recycled oil being managed or the management methods in use, or the facility's location, could pose a substantial potential hazard to human health or the environment; or

facilities during storage or processing. To cite just one example, samples of used automotive oil taken at generator sites had 90th percentile values of trichloroethane, trichloroethylene, and tetrachloroethylene (three hazardous spent solvents) of 16, 11, and 55 ppm, respectively (p. 3-33). The 90th percentile values of these same constituents in "automotive oil" samples at processor facilities are 6000, 500, and 3000 ppm (p. 3-34).

¹⁵³ Since these facilities manage other hazardous wastes, they are presently subject to individual permitting under 40 CFR Part 270. [The most EPA could do under Section 3014(d) would be to permit the recycled oil portion of the facility by-rule.] For those facilities that are permitted before today's rules become effective, a permit modification would be necessary to allow acceptance of used oil or recycled oil. See §§ 124.5 and § 270.41 regarding permit modifications.

¹⁵⁷ The reader should note that in Section IV.A. above, EPA has requested comment on whether we should prohibit co-management of recycled oil and other hazardous wastes.

¹⁵⁸ A State authorized by EPA to manage its own hazardous waste program under 40 CFR Part 271 could, by its own regulations, require some or all of the used oil recycling facilities within the State to apply for individual RCRA permits. How today's proposed rules would operate in authorized States is discussed more fully in the next part of the preamble.

- There has been a release of recycled oil, hazardous waste, or a hazardous constituent at the facility and corrective measures taken by the owner or operator are not adequate to protect human health and the environment.

In the first situation, an owner or operator may make a good faith effort to comply with the permit-by-rule requirements of § 270.60(d)(2), discussed below, and believes that he is in compliance. A site inspection by EPA, however, may lead to a determination by EPA that the steps taken by the owner or operator to comply with § 270.60(d)(2) are not adequate, and that additional measures are necessary. In such cases, EPA would either initiate an enforcement action to bring the facility into compliance, and/or could make the determination that the facility in question is more appropriately regulated through an individual permit. For example, a facility may be more appropriately regulated under an individual permit where site-specific conditions exist that require special, individual consideration.

The second situation, where the facility is posing a potential hazard, also requires explanation. Some facilities, in the judgment of the Regional Administrator, may pose at least a potential hazard even though they are technically in compliance with § 270.60(d)(2). An example might be a facility reclaiming, storing, or burning large quantities of recycled oil in a densely populated urban area. In this case, the Regional Administrator would not have grounds to cite the facility for violations of the permit-by-rule conditions. The potential for a hazard, however, may be substantial because of proximity to population centers or to sensitive population groups, such as children. In this case, individual permitting would provide the maximum scrutiny possible under Subtitle C and would also allow for public participation in the permitting and siting process. Finally, as described above, if the Regional Administrator determines that an owner/operator's response to a release is inadequate, he can require the owner or operator to apply for an individual permit to institute the corrective action requirements of Parts 264/270.¹⁵⁹

¹⁵⁹ The reader should note that when an owner or operator is required to obtain an individual permit under § 270.60(d)(3), he must then also comply with the "corrective measure" provisions of § 264.101. [See the proposed § 266.43(a)(5)(iv).] This is because section 3004(u) of RCRA requires any permit issued by EPA to include corrective measures requirements as appropriate.

¹⁵³ This problem would also exist for surface impoundment regulation and permitting.

¹⁵⁴ EPA could conceivably require compliance with Part 265, not Part 264, for persons using recycled oil in manner constituting disposal and perhaps for surface impoundment storage in that the Part 265 standards are meant to be self-implementing. This is what we have proposed for tanks. [See the discussion in Section IV.D. above.] We have not proposed this approach because Congress has registered a strong concern with land disposal and surface impoundment storage of hazardous waste [see section 1002(b)(7) of RCRA, as amended] indicating a need for maximum scrutiny of these practices by EPA, i.e., individual facility permitting.

¹⁵⁵ See the report, *Composition and Management of Used Oil Generated in the U.S.*, by Franklin Associates, Ltd., November 1984, pp. 3-32 through 3-37. It appears obvious that hazardous solvents are commonly introduced either during collection or at

Under § 270.60(d)(3)(ii) of today's proposal, the Regional Administrator (or State Director) would notify the owner or operator of the determination that an individual RCRA permit is required; the owner or operator would then have 180 days to submit "Part B" to the RCRA permit application.¹⁰⁰

B. Requirements of the Permit-by-Rule

EPA has proposed requirements for the permit-by-rule in § 270.60(d)(2) for those facilities not excluded from eligibility (as described above). These requirements are based on the statutory provision [section 3014(d)] that the facility must be in compliance with standards promulgated under section 3004.¹⁰¹ First, the proposed § 270.60(d)(2)(i) provides that the owner or operator comply with §§ 266.43 and 266.44, the standards proposed today for used oil recycling facilities (including burners). These standards are proposed under the joint authorities of sections 3004 and 3014. In the case where these rules are amended or modified, the owner or operator would have to comply with the modified requirement within the time limit as specified in the appropriate Federal Register notice. [This will be particularly important for burners. Today, § 266.44 is reserved for the standards that will apply to burners.]

Paragraphs (ii) through (xvi) of the proposed § 270.60(d)(2) contain requirements that are necessary to ensure compliance with § 266.43 or § 266.44. These requirements apply to EPA issued permits (see § 270.30), and are proposed here under the authority of section 3014 to implement this special permit-by-rule. The conditions are summarized here:

- Paragraph (ii) provides that noncompliance with §§ 266.43 or 266.44 is allowable only under terms of an emergency permit issued under § 270.61;
- Paragraph (iii) provides that it shall not be a defense in an enforcement action to claim that it would have been necessary to halt or reduce a permitted activity in order to maintain compliance with § 266.43 or § 266.44;
- Paragraph (iv) requires that in event of non-compliance, the owner or operator must take all reasonable steps

to minimize any impacts on human health or the environment;

- Paragraph (v) provides that the facility's operating equipment must be properly operated and maintained (including adequate staffing and training of personnel, quality assurance procedures, etc.);

- Paragraph (vi) makes it clear that the permit-by-rule conveys no property right or exclusive privilege;

- Paragraph (vii) requires the owner or operator to provide EPA or a State with any information relevant to determining compliance or the need for an individual permit;

- Paragraph (viii) codifies some of EPA's inspection and entry authorities granted by Section 3007 of RCRA;

- Paragraph (ix) provides that any sampling or other measurements taken to comply with the regulations must be representative of the volume and nature of the measured activity;

- Paragraph (x) stipulates specific recordkeeping requirements for any sampling or monitoring performed to comply with the regulations;

- Paragraph (xi) codifies that requirement for a facility to have an operation record (required under § 264.73, reference by the proposed § 266.43(e)(3));

- Paragraph (xii) stipulates signatory requirements for any reports or information submitted to EPA or a State;

- Paragraph (xiii) requires the owner or operator to notify EPA or the State of any activity that may cause noncompliance;

- Paragraph (xiv) specifies reporting procedures the owner or operator must follow in the event of a serious mishap at the facility;

- Paragraph (xv) specifies procedures for submission of the RCRA biennial report; and

- Paragraph (xvi) requires the owner or operator to promptly submit any relevant information when omissions or mistakes are discovered.

In summary, when an owner or operator meets all of the requirements of § 270.60(d)(2), he is deemed to hold a RCRA permit under the special authority of section 3014(d). The requirements of § 270.60(d)(2) would be applicable to the owner or operator as if he held an individual permit. [See section 3008 of RCRA, federal enforcement authorities.]

C. Modifications to and Duration of the Permit-by-Rule

As discussed above, EPA intends to propose burner standards in the near future (the "reserved" § 266.44). Also, over time, EPA may amend the § 266.43 standards for used oil recycling

facilities. Owners or operators would have to comply with the new or revised standards within the time limits specified in the Federal Register. [See the proposed § 270.60(d)(2)(i).] Finally, because of the on-going, continuing nature of a permit-by-rule, the permit is not issued for a fixed term, but rather continues in force as long as the facility meets the eligibility criteria and the requirements are complied with.¹⁰²

D. Interim Status for Used Oil Recycling Facilities

1. *General.* The preceding discussions concerned facilities that would be eligible for the proposed permit-by-rule. For those facilities that meet all of the proposed § 270.60(d)(2) permit-by-rule requirements immediately interim status is not relevant. An issue that requires additional discussion, however, is the question of facilities that are not completely in compliance with the permit-by-rule requirements when the latter become effective. Such a facility is subject to enforcement action under RCRA section 3008 not simply for non-compliance with applicable requirements but also for operating an unauthorized hazardous waste facility. Under proposed § 266.40(e)(3), facilities are only authorized to manage recycled oil if they are permitted or in interim status.¹⁰³ A facility is not permitted-by-rule unless it is in full compliance with proposed § 270.60(d)(2). [This requirement is from RCRA section 3014(d).]

With respect to those facilities that are not in compliance on the effective date of this regulation, EPA believes that the permit-by-rule authority of section 3014(d) should be read in conjunction with the existing interim status provisions of section 3005(e). Pursuant to the terms of these two sections, used oil recycling facilities that fail to meet the § 270.60(d)(2) requirements by the effective date of this regulation (and thus do not qualify for the permit-by-rule) become subject to the section 3005(a) prohibition against operating without a permit and must either shut down or seek interim status authorization under section 3005(e). Owners and operators of used oil

¹⁰⁰During this time, the owner or operator would remain subject to § 270.60(d)(2). If compliance with those standards cannot be maintained through the permitting process, at a minimum through an interim understanding between the owner or operator and the permitting authority, the facility would have to cease operation. See RCRA section 3008 pertaining to compliance orders.

¹⁰¹The reader should note that except for facilities excluded from eligibility from the permit-by-rule under § 270.60(d)(1), owners or operators are subject to § 270.60(d)(2).

¹⁰²Because the permit-by-rule for used oil recycling facilities would be issued under section 3014 and not section 3005 of the Act, section 3005(c)(3) pertaining to "permit terms" does not apply.

¹⁰³This is the general policy for all hazardous wastes. See § 270.1(b), "overview of the RCRA permit program."

¹⁰⁴As described in Section I.E. of this Part of the preamble, certain recycled oil (e.g., specification fuel) are exempt from regulation and can be managed at facilities without authorization.

recycling facilities should note that under this approach they have a choice. If a used oil recycling facility meets all the requirements of § 270.60(d)(2) on the effective date of this regulation, it is deemed to have a permit under section 3014(d) and, therefore, interim status is not required. However, if there is some doubt as to the extent of a facility's compliance, an owner or operator may wish to consider taking the steps necessary to qualify for interim status to avoid being vulnerable to a possible enforcement action for operating without a permit.

To receive interim status authorization under section 3005(e), a facility must meet three requirements. First, the facility must have been in existence on November 19, 1980 or the effective date of the statutory or regulatory changes that rendered it subject to the requirement to have a permit. Second, it must comply with the notification requirements of section 3010(a). And third, it must submit an application for a permit. On the effective date of this regulation, existing used oil recycling facilities will, by definition, meet the first requirement of section 3005(e). With respect to the second requirement (*i.e.*, notification), many used oil recyclers are presently required to notify the Agency under the Phase I burning rule.¹⁶⁶ [In the final Phase I preamble, see Part Four, Section I.B.] EPA has determined that the third requirement (for permit applications) calls for an approach slightly different than the one that currently applies to hazardous waste facilities; this is discussed next.

2. Permit applications. EPA is proposing that the owner or operator of a used oil recycling facility that seeks interim status (because he is not in compliance, or is not sure of whether he is in compliance with proposed § 270.60(d)(2)), must inform EPA that information submitted to the Agency under the RCRA section 3010(a) notification requirement is *also* intended to fulfill the "permit application" requirement of RCRA section 3005(e)(1)(C).¹⁶⁷ [See proposed § 270.10(a)(3).]

¹⁶⁶ For those facilities not subject to the special "waste-as-fuel" notification of the final Phase I rule, the reader should note that under § 264.11 (referenced by § 266.43(b), introductory text, of today's proposal), facility owners and operators must notify the Agency and obtain EPA identification numbers. Owners and operators who file "waste-as-fuel" notifications need not re-notify under today's proposal, except as discussed next, *i.e.* those facilities who must obtain interim status.

¹⁶⁷ This discussion only applies to facilities that would otherwise be eligible for the permit-by-rule, but are not fully in compliance. Facilities excluded from eligibility by § 270.60(d)(1) must obtain interim

EPA considered whether owners and operators should submit full "Part A" RCRA permit applications, as is required for all other hazardous waste facilities under §§ 270.70(a)(2) and 270.10(a)(1). We are not requiring the full Part A submission because much of the Part A information is, for used oil recyclers, not relevant. That is, the Part A submission was intended as the first step in individual facility permitting. [See 45 FR 33322-23; May 19, 1980.] We fully expect, however, that most used oil recycling facilities that seek interim status will eventually come into full compliance with § 270.60(d)(2), and at that point, they will be deemed to have a permit. Therefore, we see no need to require additional information beyond the RCRA section 3010(a) notification requirements. We must require the special "interim status notification" to ensure that the RCRA section 3005(e)(1)(C) "permit application" has been complied with. This special notification to EPA would ensure that a used oil recycling facility, even if subject to enforcement action for being in violation of § 270.60(d)(2), would maintain its legal authorization to operate.

3. Alternatives considered. As an alternative to the proposed interim status approach, EPA considered a second approach of extending the permit-by-rule to all recycled oil facilities, regardless of their compliance status, on the effective date of these regulations. Under this approach, the Agency would pursue case-by-case enforcement against those facilities later found to be out of compliance. The major difficulty with this approach is that it is inconsistent with the explicit language of section 3014(d). Congress specifically provided that an owner or operator of a used oil recycling facility "shall be deemed to have a permit under this subsection for all treatment or recycling . . . if such owner or operator comply with the standards promulgated by the Administrator under section 3004 . . ." (emphasis added). As EPA does not have the information or data on which to conclude that all used oil recycling facilities will come into compliance by the effective date of this regulation, it lacks an adequate basis for implementing this approach.

EPA also considered an approach under which a facility not fully in compliance with § 270.60(d)(2) on the effective date of the requirements would thereby lose eligibility for the permit-by-rule, and would have to seek interim

status and apply for a full permit under 40 CFR Part 270, as would any hazardous waste facility.

status and a full RCRA individual facility permit as would any hazardous waste facility. EPA did not propose this approach because it could result in outcomes contrary to Congressional intent. Many owners or operators may simply be unsure of their compliance when today's proposed rules become effective, or may make good faith efforts to comply but are still not completely in compliance. To make a blanket determination that all used oil recycling facilities must be permitted individually does not seem in line with Congressional intent that EPA avoid discouraging used oil recycling consistent with protection of human health and the environment. See H.R. Conf. Rep. No. 1133, 98th Cong., 2d Sess., at 114 (1984).

Comments are requested on the Agency's proposed interim status approach.

E. Enforcement

All used oil recycling facilities would be, under today's proposal, subject to § 266.43 (and burners would also be subject to § 266.44). Whether a facility is authorized to operate under interim status, or an individual facility permit, or the proposed permit-by-rule, EPA may take enforcement actions under RCRA section 3008 for violations of applicable requirements. With respect to those facilities that qualify for the permit-by-rule and then later are found in violation of an applicable requirement, EPA would proceed as it does against any permitted facility found in violation. That is, EPA may issue compliance orders and schedules under RCRA section 3008, and in some cases may seek injunction for temporary or permanent facility closure. Our reasoning for treating facilities permitted individually under section 3005(c) and by-rule section 3014(d) in a similar fashion is that permits issued under both Sections serve the same statutory purpose, *i.e.*, implementation of the Section 3004 standards.¹⁶⁷ Regulations issued under each section are designed to provide specific guidance as to what constitutes compliance with those standards. Because of the similarity of these sections not only in their purpose but also in many of the section 3004 requirements they implement, EPA sees no reason for treating noncomplying facilities differently under each

¹⁶⁷ Section 3005(c), however, has a broader scope than does section 3014(d); for example, section 3004(u) corrective action requirements are implemented through section 3005(c) permits.

section.¹⁴⁸ The Agency therefore believes that since a facility's failure to comply with a permit condition does not lead to a loss of authority to operate under RCRA section 3005(c), it should not do so under section 3014(d).

VI. Proposed Effective Dates

This section discusses when various parts of the proposed rules would become effective. The public is invited to comment on the proposed effective dates as well as the substantive requirements themselves.

A. General

Under RCRA section 3010(b), hazardous waste regulations are generally to become effective six months after final rule promulgate for good cause. Except as discussed below, we are proposing that the recycled oil rules would become effective six months after the day they are published in final form in the Federal Register.

B. Prohibition on Dust Suppression

As discussed above in Section IV.E. of this Part of the preamble, RCRA section 3004(l) prohibits the use of hazardous waste for road treatment or dust suppression (*i.e.*, road oiling). As discussed elsewhere in today's Federal Register used oil would become a hazardous waste six months after the final listing notice appears in the Federal Register. Because of the strong concern Congress has registered against using hazardous waste for dust suppression (*i.e.*, the passage of section 3004(l)), EPA considered whether perhaps the prohibition on road oiling should become effective either immediately when, or shortly after (e.g., 30 days) the final listing notice for used oil appears in the Federal Register. We have not proposed this action today because of the possible confusion that could result from an early effective date for one particular management practice (*i.e.*, road oiling). Comments are requested on the issue of an early effective date for the road oiling prohibition.

C. Tank System Secondary Containment Standards

EPA proposed that interim status hazardous waste facilities and "90 day" generators have one full year, instead of

six months, to comply with tank system secondary containment requirements. [See proposed §§ 265.193(a) and 261.34(a)(2); June 28, 1985.] This same extended effective date would apply to all persons subject to tank system secondary containment requirements under today's proposed rules. In the case of the proposed requirements for recycled oil generators, EPA has proposed secondary containment only for "new" tank systems, including leaking tanks taken out of and then returned to service. [See proposed § 266.41(c)(5) (vi) and (vii), discussed in Section IV.B. above.] Tanks installed during the one year period following publication of the final § 266.41 in the Federal Register would not be subject to the secondary containment requirements, but would remain subject to the Section 9003(g) "interim prohibition" for all petroleum materials stored in underground tanks. [See §§ 280.1 and 280.2.] After the 1 year period, generators installing new tanks would then be subject to the secondary containment standards, no longer to the interim prohibition.¹⁴⁹

PART THREE—ADMINISTRATIVE, ECONOMIC, AND ENVIRONMENTAL IMPACTS

I. State Authority

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. [See 40 CFR Part 271 for the standards and requirements for authorization.] Following authorization EPA retains enforcement authority under sections 3008, 7003, and 3013 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA) amending RCRA, a State with final authorization administered its hazardous waste program entirely in lieu of the Federal program. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State which the State was authorized to permit. When new, more stringent Federal requirements were promulgated

or enacted, the State was obligated to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, newly enacted section 3006(g) of RCRA, 42 U.S.C. 6926(g), provides that new requirements and prohibitions imposed by the HSWA take effect in authorized States at the same time they take effect in non-authorized States. EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is authorized to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

It should also be noted that authorized States are only required to revise their programs when EPA promulgates standards more stringent than the existing standards. Under Section 3009 of a RCRA, States are allowed to impose standards more stringent than those in the Federal program. Under today's proposal, some of the standards for used oil would be less stringent than the requirements that would apply to hazardous wastes in general. Authorized States that have already listed used oil as a hazardous waste and subject used oil to full regulation under the States' analogues to Parts 261-266 would not be required to revise their standards to conform with the special Part 266, Subpart E requirements proposed today (when promulgated in final form). However, those States must apply to be authorized for that aspect of the RCRA program, and after review and acceptance by EPA, a Federal Register notice will announce that the State is authorized to run that part of the program.

B. Effect on State Authorizations

Today's announcement proposes standards that would be effective in all States since the requirements are imposed pursuant to section 242 of the Hazardous and Solid Waste Amendments of 1984 (HSWA). Thus EPA will implement the standards in nonauthorized States, and in authorized States until they revise their programs to adopt these rules and the revision is approved by EPA.

A State may apply to receive either interim or final authorization under section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State

¹⁴⁸ Indeed, since one of the general objectives of section 3014 is to avoid discouragement of recycling consistent with protection of human health and the environment, the Agency believes that a result which increases rather than decreases the burden and stringency of regulatory requirements for recyclers would generally be consistent with Congress' stated concern to reduce unnecessary impediments to recycling.

¹⁴⁹ Small quantity recycled oil generators would be subject to the proposed modified version of the interim prohibition 6 months after publication of the final rule [proposed § 266.40(c)(1)(iv)]. As with all petroleum materials in underground tanks, the section 9003(g) interim prohibition will continue to apply to recycled oil until Part 266, Subpart E becomes effective.

adoption of these regulations is described in 40 CFR 271.21. [See 49 FR 21878; May 22, 1984.] See also 50 FR 28731; July 15, 1985.

Applying § 271.21(e)(2), States that have final authorization must revise their programs within a year of promulgation of EPA's regulations if only regulatory changes are necessary, or within two years of promulgation if statutory changes are necessary. These deadlines can be extended in exceptional cases. [See 40 CFR 271.21(e)(3).]

States with authorized RCRA programs may have requirements similar to those in today's rule. These State regulations have not been assessed against the Federal regulations being proposed today to determine whether they meet the tests for authorization. Thus, a State is not authorized to carry out these requirements in lieu of EPA until the State program revision is approved. As a result, the standard proposed in today's rule will apply in all States, including States with existing standards similar to those in today's rule. States with existing standards may continue to administer and enforce their standards as a matter of State law. In implementing the Federal program EPA will work with States under cooperative agreements to minimize duplication of efforts. In many cases EPA will be able to defer to the States in their efforts to implement their programs, rather than take separate actions under Federal authority.

States that submit official applications for final authorization less than 12 months after promulgation of EPA's regulations may be approved without including standards equivalent to those promulgated. However, once authorized, a State must revise its program to include standards substantially equivalent or equivalent to EPA's within the time period discussed above.

Finally, we have proposed to amend Part 271, the Requirements for Authorization of State Hazardous Waste Programs, by amending Table 1 of § 271.1(j) to add the citations and the standards for management of recycled oil to the list of regulations implementing the Hazardous and Solid Waste Amendments of 1984.

II. Relationship of Today's Proposal to Certain Other EPA Programs

This section discusses the relationship of today's proposal to certain other EPA regulatory programs. This discussion is for informational purposes only; no new requirements are proposed here. [Note that in the listing Federal Register

notice, we propose to alter the CERCLA "reportable quantity" for used oil.]

A. PCB Program

Under section 6(e) of the Toxic Substances Control Act (TSCA), EPA has promulgated regulations on the use, manufacture, processing, distribution in commerce, and disposal of PCB items, including oils containing PCBs. When the rules proposed today become effective in their final form, used oil containing PCBs would be subject to these rules and the PCB rules at 40 CFR Part 761. EPA estimates that 18% of the used oil generated and managed in the U.S. currently contain some measureable quantity of PCBs.¹⁷⁰ EPA is currently considering whether, and how, the TSCA PCB and RCRA Subtitle C regulations should be integrated. Until such a determination is made, hazardous wastes containing PCBs will continue to be subject to both sets of rules. This is necessary for used oil because the TSCA PCB rules do not address hazards associated with toxic metals or flashpoint (as do the rules proposed today). Where both sets of rules are applicable, EPA will apply the more stringent of the two requirements.

B. SPCC Program

Under section 311 of the Clean Water Act (CWA), also known as the Federal Water Pollution Control Act, 33 U.S.C. 1321(j)(1)(c)), EPA has promulgated regulations for the prevention of and response to oil spills into navigable water. These rules (40 CFR Part 112), known as the Spill Prevention Control and Countermeasure (SPCC) regulations, apply to non-transportation-related facilities with underground storage capacity over 42,000 gallons or above ground storage capacity greater than 1,320 gallons. Because the SPCC definition of oil includes "oil refuse" (40 CFR 112.2(a)), persons storing used oil encompassed by today's proposed rule may already be subject to SPCC management regulations.

When the rules proposed today become effective in their final form, used oil stored in tanks or containers meeting the SPCC requirements will be subject to these rules and the SPCC rules at 40 CFR Part 112.

EPA is currently considering whether, and how, the SPCC and RCRA Subtitle C regulations should be integrated. Until such a determination is made, stored hazardous waste meeting both SPCC

and RCRA requirements, will continue to be subject to both sets of regulations.

C. NPDES Program

Under section 402 of the Clean Water Act, EPA has promulgated regulations regarding its issuance of National Pollution Discharge Elimination System (NPDES) permits. An important part of many permits issued under these regulations is the limit placed on "oil and grease" discharges. When oil is collected in greater than de minimis quantities in order to comply with permit requirements, the collected oil may be subject to the requirements of today's proposed rule. The general relationship between the RCRA and NPDES regulatory programs is discussed more fully at 45 FR 33096-98 and 33171-72; May 19, 1980.

III. Regulatory Impact Analysis—Executive Order 12291

A. Purpose

The Agency conducted analyses to estimate the costs, benefits, and impacts of the proposed regulations. We conducted cost and economic impact studies to determine whether this proposed regulation is a major rule (under Executive Order 12291), and whether this proposed regulation causes significant small business impacts (as required by the Regulatory Flexibility Act). EPA had the additional mandate to study specifically the effects of used oil regulations on recycling (section 3014(a) of RCRA, as amended) and on generators (section 3014(c)).

EPA has determined that the rules proposed today (the listing proposal and the proposed rules for recycled oil, taken together) are "major." This section of the preamble is a summary of the regulatory impact analysis (RIA) documented in U.S. EPA, *Regulatory Impact Analysis of Proposed Standards for the Management of Used Oil*, November 1985. This document is available in the public docket for this rulemaking. The Office of Management and Budget received a copy of the draft RIA, as required by E.O. 12291.

B. Methodology

EPA conducted an assessment of the costs, benefits, and economic impacts of this proposal and major regulatory alternatives.¹⁷¹ We evaluated, for each,

¹⁷⁰ See the report by Franklin Associates, Ltd., *Composition and Measurement of Used Oil Generated in the U.S.*, November 1984, p. 1-12. 142 of 753 samples showed some PCBs present. The median value is 5 ppm, the 90th percentile value is 50 ppm.

¹⁷¹ In order to provide a more complete, integrated assessment of the used oil system, the RIA includes the aggregate effects on not only today's proposals (i.e., the listing and management standards), but also standards for used oil burners (i.e., proposed administrative burner standards (50 FR 1984) and potential technical burner standards (yet to be proposed)).

costs of requirements, costs to facilities, impacts on businesses and used oil recycling, and changes in potential risks.

1. *Data Collection.* Before initiating its regulatory impact analysis, the Agency collected data on current used oil management practices. These efforts included a survey of used oil handlers and burners, a site visit program, test burns of used oil combustion devices, a used oil sampling and testing program, and discussion with many used oil businesses and experts, including state program officials. EPA's understanding of the used oil system is summarized in U.S. EPA, *Composition and Management of Used Oil Generated in the U.S.*, (by Franklin Associates) November, 1984.

2. *Economic Methodology.* The economic impact analysis involved the following steps. We developed model used oil facilities. We estimated compliance costs for each model facility. We conducted a market, or macro, analysis to estimate changes in prices, changes in used oil supply and demand, and aggregate national costs. We also conducted a financial, or micro, analysis to estimate changes in profits, and closure and employment impacts.

To estimate costs and economic impacts, we first developed thirteen model facilities to represent the used oil recycling system which includes generators, collectors, processors, and rerefiners. We also evaluated end user costs, but did not develop end user model facilities. Instead we modeled end users as markets demanding used oil "products."

We separated used oil generators into industrial used oil generators who produce used oil from maintenance of machinery and non-industrial used oil generators who produce used oil from maintenance of vehicles. We also split generators by size. Large generators produce greater than 1000 kilograms (about 300 gallons) per month.

Collectors purchase used oil from generators and transport it to processors and rerefiners. We developed three sizes of collectors: small collectors who handle an average of 125,000 gallons per year, medium collectors who handle 300,000 gallons per year, on average, and large collectors who handle an average of one million gallons per year.

We developed model facilities for used oil processors and rerefiners who produce used oil "products," such as fuels and lubricants, for sale to end users.

We also evaluated end use markets for used oil. These included use as fuel (in boilers and other combustion devices), use as rerefining feedstock use

as road oil, miscellaneous non-fuel uses, and disposal.

Next, for each of the model plants (and end users), we estimated compliance costs. To estimate these costs, we conducted engineering studies of the activities and costs required to comply with the regulatory provisions.¹⁷² These estimates included initial, capital, and annual costs, which we annualized.

For one-time costs, such as many of the capital costs, we assumed that facilities could amortize these costs over 20 years, at a nominal interest rate of 13%.¹⁷³ This rate corresponded to real costs of capital, not to an estimate of social discount rates, or social costs. For annual and recurring costs, we converted uneven streams of payments to annualized present values using discounted cash flow calculations. We discounted future costs to current dollars assuming a six percent annual inflation rate and a three percent real discount rate. Finally, we multiplied the model facility incremental costs by the total number of facilities to obtain the national aggregate cost estimates.

Next, for each of the model facilities and end users, we collected information on prices in used oil markets; we estimated costs of production for used oil collectors, processors, and rerefiners; and lastly, we estimated flows of used oil from generators to different end users. We combined all of this information into an economic model to simulate current supply and demand for used oil, and the macro and micro level impacts of regulatory costs on supply and demand. (This model is documented in detail in U.S. EPA, *Background Document: Regulatory Impact Analysis of Proposed Standards for the Management of Used Oil*, November 1985.)

We first conducted a macroeconomic impact analysis using our supply and demand model, and our estimates of regulatory compliance costs for each model facility. We used the model to predict: (1) Changes in supply to and demand for used oil in end use markets, (2) changes in flows through intermediary facilities, and (3) price changes. We also calculated aggregate national costs of the regulation.

Secondly, we conducted a microeconomic impact analysis by evaluating facility finances, using the

same model facilities (disaggregated into small, medium, and large facilities), to predict closures and employment effects. For each model facility, we developed income statements using publicly available financial data and data on the used oil industry collected by the Agency. Using these income statements, we calculated current cash flows and net value of the businesses. To these baseline finances, we then imposed net regulatory costs, which included the effect of price changes. First, we estimated how these changes affected the profitability of firms. Next we estimated business closures by comparing the value of the firm after regulation to the value of selling a firm, that is, the "salvage value." If a firm's salvage value was greater than its value after regulation, we predicted closure of that firm.

3. *Benefits Methodology.* To compare the benefits of the proposal and regulatory alternatives, we estimated the changes in potential health risks from used oil practices before and after regulation. We estimated risks of five types of used oil practices:

- Burning in space heaters, asphalt plants, and boilers and other devices;
- Road oiling;
- Disposal in incinerators and landfills;
- Storing in drums, aboveground tanks, and underground tanks; and
- Dumping.

For each practice, we estimated potential releases of and potential exposures of people (and the environment) to constituents in used oil. We estimated benefits as the reduction in potential health risks resulting from management practices after regulation compared to potential health risks from current practices.

To estimate national aggregate health risks from used oil practices, we made a number of simplifying calculations and assumptions. First, based on our sampling data, we calculated mean concentrations of hazardous constituents in different types of used oils (that is, for used oils recycled in different ways). We then designed model practices to represent average practices, such as road oiling and disposal. For these practices, we estimated quantities likely to be released from routine emissions and accidental releases. We then calculated concentrations of hazardous constituents that would result from dispersion and degradation of the releases. By assuming population densities, we estimated exposures. We then estimated health effects using dose-

¹⁷² Most of these cost estimates appear in *Cost of Control Options for Reducing Waste Oil Handling Risks*, Draft (prepared by P.E.L. formerly PEDCo), May 1984.

¹⁷³ We used 13% to represent the cost of borrowing money at the prime rate plus three percent. (Because few of the regulatory costs are capital costs, assumptions about interest rates are not critical to the conclusions.)

response data for individual constituents, assuming lifetime (seventy year) exposures. (The risk analysis is discussed in detail in the *RIA Background Document*.)

4. Limitations. The economic impact analysis depended upon our characterization of current used oil practices and the responses of facilities to regulatory costs and constraints. We presumed that businesses will make economically rational and legal decisions. We modeled used oil markets using accepted macroeconomic assumptions about supply and demand. We also assumed that facilities could finance regulatory compliance expenditures.

The Agency's benefit analysis of the regulatory alternatives also depended upon characterizing model practices. To estimate the regulatory benefits as accurately as possible given our data, we used assumptions, simplified practices, and representative (or average) parameters. Therefore, the benefits results are best used to compare across the alternatives included in the analysis.

Because we recognized variability in the practices, we analyzed the variability in the parameters that determine risks, and changes in risk. The analysis of variance is discussed in more detail in the *RIA Background Document*.

The *RIA* risk analysis did not capture all benefits of the regulation. In addition to reducing cancer cases, the proposed regulation creates other health benefits (such as reduced lead poisoning) and environmental benefits.

Because we characterized average practices in the benefits analysis, we quantified the health effects of only typical practices. We estimated the effects of hazardous constituents typically found in used oil. When other hazardous constituents are present in used oil they may pose additional risks that we have not quantified—but risks that the regulation does prevent. For example, in the aggregate analysis we did not analyze the risks of road oiling with used oil containing dioxin. The proposed regulation would, however, help prevent such risks. The listing preamble and listing background document cite instances of extreme cases that have caused damages that are not fully captured by the risk assessment.

The regulation also produces environmental benefits that we did not quantify. Improperly managed used oil and its hazardous constituents can create environmental damage. Constituents in used oil are toxic to plants and animals. The physical

properties of oils may also affect organisms. Used oil releases can also degrade environmental media, such as ground and surface water.

C. Results

1. Macroeconomic Impacts. Table 6 presents our estimate of the aggregate annualized national costs of the proposal. Even though most of the regulatory requirements fall on the intermediary facilities that control the flow and quality of recycled used oil, generators and end-users incur high aggregate costs (almost three quarters of the total), primarily because of their large numbers. Although regulated generator costs average only \$650 per year, they incur in aggregate \$31 million per year. Annualized intermediary costs range from \$4,300 to \$356,700 per facility, and total \$36 million per year. End user costs total \$91 million per year. Major costs by regulatory component include disposal (\$10 million), storage (\$67 million), testing (\$16 million), administrative requirements (\$10 million), substitute dust suppressants (\$28 million); and off-spec pollution control and test burns (\$37 million).

TABLE 6.—AGGREGATE (ANNUALIZED) NATIONAL COSTS OF REGULATION
(Dollar amounts in millions per year)

Model facility/regulatory requirement	Annualized cost
Generators:	
Storage	\$26
Administrative	4
Tracking	1
Subtotal	31
Intermediaries:	
Storage	16
Administrative	4
Tracking	1
Testing	16
Subtotal	36
End users:	
Road oil substitutes	26
Storage	26
Administrative	2
Pollution control and test burns	37
Subtotal	91
Disposal costs	10
Total	168

The Agency evaluated how these costs (and regulatory constraints) affect markets and recycling. First, we predicted the effect of the proposed regulation on supply of and demand for used oil in different markets—see Table 7. These predicted changes represent significant changes in recycling. By establishing fuel specifications, the proposal changes the reuse of used oil as a fuel, largely by shifting recycled oil to controlled burners. Use of used oil as a dust suppressant (currently 69 million

gallons per year) is banned. The displaced oil flows largely to use as a rerefining feedstock, which increases from 85 to 135 million gallons per year. We estimate that, overall, used oil recycling will increase by about 100 million gallons per year.

TABLE 7.—EFFECT OF REGULATION ON MARKET FLOWS OF USED OIL
(Million gallons per year)

	Baseline	Regulatory impact
Burning:		
Industrial boilers	249	185
Asphalt and cement kilns	94	309
Non-industrial boilers	121	117
Diesel engines	15	15
Space heaters	34	34
On-site boilers	73	48
Total burned	586	708
Rerefining:		
Lube oil	59	101
(total rerefined)	(85)	(135)
Non-fuel industrial	36	40
Road Oiling	69	0
Disposal	405	305
Total	1,155	1,155

2. Microeconomic Impacts. Table 8 contains our estimates of the annualized costs of compliance for the model facilities. These estimates are based on our characterization of these facilities, their current practices, and their responses to regulatory requirements. Facility costs vary a great deal, depending on the size of the facility and the regulatory requirements. Processors are larger and face more requirements. Generators and collectors are smaller and face less extensive regulation. As the costs per gallon demonstrate, there are economies of scale for larger facilities.

TABLE 8.—ESTIMATES OF MODEL AVERAGE FACILITY COSTS

Model facility ¹	Annualized regulatory cost (year)	Cost per gallon (cents)
Generators:		
Large industrial	\$200 to \$3,700	<6–<105
Large automotive	\$200 to \$1,300	<6–<37
Collectors:		
Small	\$4,300 to \$9,700	3–6
Medium	\$8,500 to \$16,300	3–5
Large	\$29,400	3
Processors and rerefiners.	\$17,400 to \$356,700	3–9

¹ Model facilities are described in the *RIA*.

We evaluated also the facility level (or microeconomic) impacts of regulatory costs—measured as changes in prices, reductions in profits, closures, and employment effects. Table 9 presents the price changes we predicted in the markets in which used oil intermediaries purchase and sell used oil. Price changes help processors offset

their regulatory costs by increasing revenues (by as much as fourteen cents per gallon).

TABLE 9.—PRICE CHANGES FOR INTERMEDIARIES
[Cents per gallon]

	Average purchase price			Average selling price			Net gain	Regulatory cost/gallon
	Pre-regulatory	Post regulatory	Change	Pre-regulatory	Post regulatory	Change		
Collectors	21	19	-2	40	36	-4	-2	3-8
Processors	21-24	18-22	-2-(-3)	45-55	55-59	+4-(-11)	+8-(-14)	5-8

We also predicted closures that might result from the resulting changes in profits (or net present value). For small collectors, particularly, profits decrease significantly. Reduced profits may not cause a business closure, if a facility choose to continue operating with reduced profits. Table 10 presents our estimate of facility closures predicted by

comparing net present value to salvage value, and considering changes in flows of used oil implied by the market changes presented in Table 7. The discussion below provides a more detailed explanation of impacts on used oil generator, collector, and processor facilities.

larger collector (and medium transporter) businesses will be economically viable. Larger collectors will be able to afford the regulations; as will other used oil businesses that handle larger quantities of oil. This is because many costs are fixed, independent of quantities handled. That is, there are economies of scale—the regulatory cost per gallon is three cents for larger collectors, eight cents for small.

TABLE 10.—CLOSURES AND CHANGES IN AVERAGE SIZE CREATED BY FINANCIAL IMPACTS AND FLOW CHANGES

	Ratio NPV/ salvage value ¹	Change in flow (percent change)	Number of predicted closures	Change in average facility size (percent change)
Collectors	-2.6-7.9	+17	316	+172
Minor processors	1.5-5.6	-14-(-20)	12	-6-(-20)
Major processors	2.2-6.6	-2-(-4)	3	-10-(-2)
Refineries	* NC	+59	* -6	0
			327	

¹ Ratio of net present value (NPV) to salvage value. Ratios less than one (including negative ratios) imply closure.

* NC = not calculated, see discussion in RIA.

* Negative closures represent new facilities (or expanded capacity).

For industrial generators, used oil management is generally a very minor part of their production processes. This waste provides revenue when sold to a collector or processor. Once regulated, larger industrial generators may spend as much as \$3,700 per year (only \$910, on average) to comply with the proposed requirements. Used oil will still be sold to collectors and processors, but for a lower price. Although net revenues from used oil will decrease, these changes will represent an insignificant change in overall production costs for industrial generators.

For non-industrial (automotive) generators, however, regulatory costs are more important. Based on discussions with a number of used oil generators, we have assumed that automotive generators pass through regulatory costs to their customers by increasing the price of their service—oil changes. We have assumed that oil changes will decrease by the same percentage, i.e., the elasticity of substitution equals one. More people will change their own oil, and recycling

will decrease since most homeowners dump their used oil, according to our information. Full Subtitle C regulations cause an increase in these homeowner oil changes of twelve million gallons per year. We therefore have tailored used oil regulations to reduce burdens on generators.

The regulations will seriously affect collectors. EPA predicts that it will be uneconomical for 473 small and medium collectors to continue operating as small, independent businesses. Although these small collectors represent about fifty percent of the facilities within the used oil recycling industry, they currently handle only about ten percent of the volume of oil entering the recycling system. EPA predicts that these collectors will close because their annualized regulatory costs will be between \$4,300 and \$9,700 per year, compared to net earnings before regulation of only \$2,500 per year. We also predict, however, that 155 of these smaller collectors will grow or become part of larger businesses, because; (1) The total quantity of used oil flowing through collectors will increase and (2)

Overall, the closure rate for today's proposal is less than one percent. That is, we predict only 327 net closures from over 50,000 establishments that would be subject to regulation. It should be noted that approximately three million establishments would be exempt from regulation under the provision described in Section II, Part Two of this preamble. The closure rate of establishments potentially subject to regulation is therefore about one one-hundredth of a percent.

3. *Benefits.* Table 11 presents our estimates of the health effects (cancers) in the U.S. potentially caused by used oil management practices as we have modeled them before and after the proposed regulation. The variation around these point estimates is several orders of magnitude, particularly for risks caused by releases to ground water. The regulation reduces risks by controlling several practices. Most importantly, the fuel specification and burning in controlled devices reduce combustion risks. Cancer risks from burning decrease by almost fifty percent. (The prohibition of unvented space heaters prevents unsafe exposures to lead, which in the baseline cause almost 25 health effects per year.) Requirements for secure disposal of used oil also significantly reduce risks. Disposal risks decrease by seventy percent. Overall, the proposal reduces potential cancer risks by half, in addition to eliminating lead poisoning cases from used oil space heaters. (Calculated without dumping, which the regulations don't address, cancer risks decrease by more than sixty percent.)

TABLE 11.—RIA ESTIMATES OF POTENTIAL RISKS OF AVERAGE USED OIL PRACTICES.¹

Practice	Risks (cases per year)	
	Baseline	Proposed regulation
Burning	85	80
Dumping	55	55
Disposal	110	30
Space heaters ²	<1	<1
Storage	5	<5
Road oiling	<5	0
Total	270	135
Percent change		-50

¹ These numbers are most properly used to compare potential risks before and after regulation. The RIA and its background document discuss in detail the limitations of these estimates.

² The regulation also prevents lead poisoning from indoor space heater emissions, estimated at 25 cases per year (in the baseline).

IV. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601) requires the Agency to evaluate the impacts of regulations on small entities. When a regulation imposes significant impacts on a substantial number of small businesses, the Agency must conduct a regulatory flexibility analysis to evaluate regulatory options to reduce impacts on small entities (consistent with other mandates, such as protection of human health and the environment). Although today's proposal imposes impacts on many small businesses, the total fraction of small businesses significantly affected (less than one percent) is not substantial. Nevertheless, to meet the requirements of section 3014 (to avoid discouragement of recycling, to reduce impacts on generators, and to protect human health and the environment), the Agency has reduced regulatory burdens to the extent possible. These are documented in the RIA which includes evaluation of the impacts of full Subtitle C regulations, in addition to the impacts of the proposal.

In the used oil system, most establishments are small businesses. We estimate that approximately ninety percent (about 880 of 950) of the intermediary facilities (collectors, processors, and refiners) are small businesses. These small businesses employ less than 100 people and have annual revenues less than \$1.5 million. Most of these businesses are small collectors employing one or two people. We predict that (net) 318 collectors will close. The increased flow of oil through collectors, however, will mitigate employment impacts.

The proposed regulation reduces small business impacts when compared to Subtitle C requirements. Instead of full hazardous waste facility standards, EPA has proposed a special provision that would expand the transfer facility

exemption in the hazardous waste rules to include recycled oil transporter tanks with secondary containment. This would allow most collectors to avoid being a RCRA facility, and would reduce impacts. Costs for small collectors drop from about \$9,700 to \$4,300 per year—for medium collectors from \$18,300 to \$8,500 per year. Without tailored standards, we predict that an additional 301 collectors would close. The tailored requirements reduce impacts consistent with environmental protection.

We have not proposed any special requirements to mitigate impacts on processor facilities because Congress did not exempt used oil recyclers from Section 3004. We have proposed to use the permit-by-rule authorized by Congress for most recycling facilities. We estimate that the permit-by-rule reduces costs by \$10,000 to \$20,000 per facility.

Like the intermediaries, almost all used oil generators are small businesses (based solely on number of employees). Congress exempted generators who recycle used oil from Sections 3001(d) and 3002, and directed EPA to consider small business impacts on generators in promulgating used oil regulations. The proposal includes a limited set of requirements for generators that are less stringent than the standards that apply to hazardous waste generators, and that reduce impacts. Specifically, EPA has proposed (in lieu of Subparts C, D, and § 265.16 of Part 265) simplified and tailored facility management requirements for recycled oil generators (see the proposed § 268.41(c)(6)). As described in section II, Part Two of the preamble, we are proposing these reduced requirements to reduce impacts on recycled oil generators (many are small businesses). Further, we have proposed: (1) limited secondary containment requirements for generator storage tanks, and (2) a conditional exemption for "small quantity" recycled oil generators. These provisions significantly reduce regulatory costs to generators, and substantially reduce the number of generators regulated. Although the intent of these provisions is primarily to mitigate adverse impacts on environmentally acceptable recycling, the reduced standards also serve to mitigate small business impacts.

V. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction

Act of 1980, 44 U.S.C. 3501 *et seq.* Submit comments on these requirements to the Office of Information and Regulatory Affairs; OMB; 726 Jackson Place, NW., Washington, DC 20503 marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements.

This regulation will require collection logs or shipping papers, internal recordkeeping, and facility operation records, including testing records. Table 12 presents our estimates of the numbers of shipping forms the regulation will require.

The purpose of these forms is to bring more accountability to the system, and to provide a means for enforcing against violations. We have reduced the burden of these requirements by proposing alternatives to the analogous Subtitle C requirements of manifesting and full Part B permits.

TABLE 12.—PAPERWORK REQUIREMENTS
(Shipments per year requiring tracking)

Generators: Shipments with collection logs	797,000
Intermediate facilities: Shipments with collection logs	122,000
Total number of shipments requiring tracking	919,000

PART FOUR—PUBLIC COMMENTS, BACKGROUND DOCUMENTS, PUBLIC HEARINGS, AND LIST OF SUBJECTS

This Part provides information that should aid interested parties to understand EPA's rationale and to prepare comments on today's proposal.

I. Solicitation of Public Comments

Today's two notices describe regulatory proposals, and therefore the public may comment on any aspect of or issue related to the proposals. Commenters who have previously submitted comments pursuant to previous EPA used oil proposals and Federal Register notices (such as 50 FR 1684, 1/11/85) should re-submit those comments at this time so they may be considered in today's proposal. The Agency will not address comments submitted pursuant to prior Federal Register notices unless the comments are re-submitted.

II. Availability of Background Documents

EPA relied on the following primary documents in developing today's proposal. All documents cited in the preamble are available in the public

docket for this rulemaking, located at EPA Headquarters, Room S-212, 401 "M" Street, Southwest, Washington, DC, 20460. The docket is open to the public from 9:00 a.m. to 4:00 p.m., Monday through Friday, except on holidays. Some of the documents listed below are also available through the National Technical Information Service (NTIS), an agency of the U.S. Department of Commerce, located in Springfield, Virginia (703) 487-4850. (NTIS does charge a fee per-page for documents ordered.)

Composition and Management of Used Oil Generated in the U.S., by Franklin Associates, Limited, November 1984. NTIS #PB/85-180-297.

Listing Background Document for Used Oil, U.S. EPA Office of Solid Waste, November 1985.

Regulatory Impact Analysis of the Proposed Standards for the Management of Used Oil, U.S. EPA, Office of Solid Waste, November 1985.

III. Announcement of Public Hearings

EPA will hold public hearings on the rules (both the listing and management standards) proposed today as follows:

• *January 8, 1986*—Holiday Inn, North Park Plaza, 10650 North Central Expressway, Dallas, Texas 75231 (Phone: 214/373-6000)

• *January 10, 1986*—Ramada Renaissance, 55 Cyril Magnin Street (One block north of 5th & Market), San Francisco, California 94102 (Phone: 415/392-8000)

• *January 16, 1986*—Department of Health and Human Services, North Auditorium ("C" Street entrance), 330 Independence Ave., SW, Washington, DC 20201

The hearings will begin at 9:30 a.m. (registration at 9:00 a.m.) and will end at 4:30 p.m. unless concluded earlier. EPA encourages all interested persons to attend one of the public hearings. If you would like to present an oral statement at one of the hearings, please notify in writing Ms. Geraldine Wyer, Office of Solid Waste (WH-582), U.S. EPA, Washington, DC, 20460.

Oral and written statements may be submitted at the public hearings. Persons who wish to make oral presentations must restrict their presentations to 10 minutes and are encouraged to provide written copies of their complete comments for inclusion in the official record.

List of Subjects

40 CFR Part 260

Administrative practice and procedure, Confidential business information, Hazardous waste.

40 CFR Part 261

Hazardous waste, Recycling.

40 CFR Part 266

Hazardous waste, Recycling.

40 CFR Part 270

Administrative practice and procedure, Confidential business information, Hazardous materials transportation, Hazardous waste, Reporting and recordkeeping requirements, Water pollution control, Water supply.

40 CFR Part 271

Administrative practice and procedure, Confidential business information, Hazardous materials transportation, Hazardous waste, Indian lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control, Water supply.

For the reasons set out in the Preamble, it is proposed to amend 40 CFR Chapter I as set forth below:

Dated: November 8, 1985.

Lee M. Thomas,
Administrator.

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

1. The authority citation for Part 260 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001 through 3007, 3010, 3014, 3015, 3017, 3018, 3019, and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6921 through 6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974].

2. In Part 260, a new definition is added to § 260.10 to read as follows:

§ 260.10 Definitions.

"Recycled oil" means used oil that is either burned for energy recovery, used to produce a fuel, reclaimed (including used oil that is reprocessed or re-refined), or otherwise recycled, or that is accumulated, collected, stored, transported, or treated prior to recycling.

(1) [Reserved to define specific types of burning considered to be recycling.]

(2) The term includes mixtures of recycled oil and other materials, but not mixtures containing hazardous waste (other than used oil). Used oil containing more than 1000 ppm of total halogens is presumed to be mixed with chlorinated hazardous waste listed in Part 261, Subpart D of this Chapter. Persons may rebut this presumption by demonstrating that the used oil has not been mixed with hazardous waste. EPA will not presume mixing has occurred if the used oil does not contain significant

concentrations of chlorinated hazardous constituents listed in Appendix VIII of Part 261 of this Chapter.

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

3. The authority citation for Part 261 is revised to read as follows:

Authority: Secs. 1006, 2002(a), 3001, 3002, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6921, 6922, and 6934].

4. In § 261.5, paragraphs (b) and (j) are revised to read as follows:

§ 261.5 Special requirements for hazardous waste generated by small quantity generators.

(b) Except as provided by paragraphs (e), (f), and (j) of this section, a small quantity generator's hazardous wastes are not subject to regulation under Parts 262 through 265, 270, and 124 of this chapter, nor to the notification requirements of section 3010 of RCRA, provided the generator complies with paragraph (g) of this section.

(j) *Used oil.* (1) Used oil that is disposed of (and not recycled) is included in the quantity determinations of this section and is subject to the requirements of this section.

(2) Used oil that is recycled is subject to regulation as follows:

(i) Recycled oil is not included in the quantity determinations and is not subject to the requirements of this section, but instead is subject to Part 266, Subpart E of this chapter.

(ii)(A) When hazardous waste that would otherwise be conditionally exempt from full regulation under paragraph (b) of this section is mixed with used oil in the course of recycling (e.g., during collection or storage) the resultant mixture is no longer subject to the reduced requirements of this section but instead is subject to full regulation under Parts 262 through 265, Part 266, Subparts Subparts C and D, and Parts 270 and 124 of this chapter, and to the notification requirements of section 3010 of RCRA.

(B) Used oil containing more than 1000 ppm of total halogens is presumed to have been mixed with chlorinated hazardous waste listed in Part 261, Subpart D of this chapter. Persons may rebut this presumption by demonstrating that the used oil has not been mixed with hazardous waste. EPA will not presume mixing has occurred if the used oil does not contain significant

concentrations of chlorinated hazardous constituents listed in Appendix VIII of Part 261 of this chapter.

5. In § 261.6, paragraph (a)(2)(iii) is revised to read as follows:

§ 261.6 Requirements for recyclable materials.

(a) ***

(2) ***

(iii) *Recycled oil.* (Subpart E).

Note.—Mixtures of used oil and hazardous waste are not recycled oil and when recycled, are subject to full regulation under this section.

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC WASTES AND SPECIFIC TYPES OF FACILITIES

6. The authority citation for Part 266 continues to read as follows:

Authority: Secs. 1008, 2002(a), 3004, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6924, and 6934].

7. In Part 266, § 266.30(b)(1) is revised to read as follows:

§ 266.30 Applicability.

(b) ***

(1) Recycled oil is subject to Subpart E of this Part, not to this Subpart.

8. In Part 266, Subpart E is revised to read as follows:

Subpart E—Standards for the Management of Recycled Oil

Secs.

266.40 Applicability.

266.41 Standards for generators.

266.42 Standards for transporters.

266.43 Standards for owners and operators of used oil recycling facilities.

266.44 Standards for burners.

Subpart E—Standards for the Management of Recycled Oil

§ 266.40 Applicability.

(a) *General.* (1) This subpart applies to recycled oil that is:

(i) Hazardous waste, as defined by §§ 261.1–261.3 of this chapter; or

Note: Recycled oil is a subset of used oil, the latter being listed as "F030" in § 261.31 of this chapter.

(ii) Household waste, but only when aggregated or accumulated at service stations, auto centers, or other "do-it-yourselfer" collection centers. The owner or operator of a collection center that accepts household recycled oil is

considered a "generator" for the purposes of this Subpart, and is subject either to paragraph (c) of this section or to § 266.41 of this subpart, as applicable; or

(iii) Recovered from only wastewater exempted from regulation under § 266.3(a)(2)(iv)(F) of this chapter. The person who recovers the oil is considered a "generator" for the purposes of this Subpart, and is subject either to paragraph (c) of this section or to § 266.41 of this subpart, as applicable.

(2) *Conditional exemptions.* The following recycled oils, when recycled in compliance with paragraph (b) of this section, are not subject to any further requirements under this subpart:

(i) Fuel meeting the following specification, to be known as "specification fuel":

RECYCLED OIL FUEL SPECIFICATION

Constituent/Property	Allowable level
Arsenic	5 ppm maximum.
Cadmium	2 ppm maximum.
Chromium	10 ppm maximum.
Lead	100 ppm maximum.
Total halogens	4000 ppm maximum.
Flashpoint	100 ppm maximum.

Notes.—The specification does not apply to used oil mixed with hazardous waste. Such mixtures must be managed as hazardous waste.

(ii) Asphalt paving material containing either of the following used oil recycling residues:

(A) Distillation bottoms from used oil re-refining; or

(B) Residue (*i.e.*, baghouse dust) from a fabric filter air pollution control device used to control emission from recycled oil combustion.

(b) *Conditions to exempt certain recycled oils.* Recycled oil is subject to this Subpart until the conditions of this paragraph have been complied with:

(1) *Specification fuel.* In order for fuel to be exempted from regulation under paragraph (a)(2)(i) of this section, the person first claiming the exemption must:

(i) Document through analysis that the recycled oil does meet the specification in § 266.40(a)(2)(i) of this subpart. Analytical procedures must be specified in the plan required by § 266.43(b)(2) of this subpart; and

(ii) Record the following information for each shipment of specification fuel:

(A) The name and address of the receiving facility;

Note.—Since this exemption is for *fuel*, the receiving facility is expected to either burn the recycled oil or use it to produce fuel.

(B) The quantity of specification fuel sent;

(C) The date of shipment; and

(D) A cross-reference to analysis performed under § 266.43(b)(2) of this

subpart (*i.e.*, the documentation that the fuel meets the specification of paragraph (a)(2)(i) of this section).

(iii) Maintain records of analyses and shipments of specification fuel as part of the facility's operating record required under § 266.43(f) of this subpart.

(2) *Asphalt paving material.* In order for asphalt paving material to be exempted from regulation under paragraph (a)(2)(ii) of this section, a person must ensure that the distillation bottoms or baghouse dust that has been incorporated into the paving material has undergone a chemical reaction in the course of producing the material so as to become inseparable by physical means.

(c) *Small quantity recycled oil generators.* A generator of 1000 kilograms or less of recycled oil per calendar month need not manage the recycled oil generated in that month under this Subpart, provided the following requirements are complied with. Such a generator is a "small quantity recycled oil generator." Requirements:

(1) *On-site management.* If the recycled oil is managed on-site, the following requirements apply:

(i) The use of recycled oil for road treatment, dust suppression, or road oiling is prohibited;

(ii) *[Reserved for controls on burning.]*

(iii) *Small quantity recycled oil generators may accumulate and store recycled oil on-site.* If more than 1000 kilograms is accumulated at any time, all of the accumulated recycled oil is subject to the remainder of this subpart, not to the special requirements of paragraph (c) of this section. The generator, when the quantity limitation is exceeded, becomes subject to the generator requirements of § 266.41 of this Subpart.

(iv) A small quantity recycled oil generator must not install a tank system unless the following installation requirements are complied with. Paragraph (c)(1)(iv)(B) of this section does not apply if soil tests conducted in accordance with ASTM Standard G57-78 show that soil resistivity at the site is 12,000 ohm-cm or more. Installation requirements:

(A) Such tank will prevent releases due to corrosion or structural failure for the operational life of the tank; and

(B) Such tank is cathodically protected against corrosion, constructed of non-corrosive material, or designed in a manner to prevent the release of recycled oil; and

(C) The material used in the construction or lining of the tank is compatible with recycled oil.

Note.—Steel and fiberglass are both compatible with most used oils.

(2) *Off-site recycling.* (i) A small quantity recycled oil generator may send his recycled oil off-site for legitimate recycling.

(ii) When a small quantity recycled oil generator sends oil off-site for recycling, it becomes subject to the remainder of this subpart upon collection (*i.e.*, when accepted by the transporter).

Note.—A person who collects recycled oil from small quantity recycled oil generators is subject to the transporter requirements of § 266.42 of this subpart.

(3) *Mixing with non-hazardous waste.* A small quantity recycled oil generator may mix his recycled oil with non-hazardous waste and remain subject to paragraph (c) of this section as long as the recycled oil portion of the mixture does not exceed 1000 kilograms.

(d) *Used oil mixed with hazardous waste.* (1) Used oil that has been mixed with hazardous waste, including waste from generators that would otherwise be subject to the special requirements of § 261.5 of this chapter, is not subject to this Subpart but instead is subject to full regulation under Parts 262 through 265, Part 266, Subparts C and D, and Parts 270 and 124 of this chapter, and to the notification requirements of section 3010 of RCRA.

(2) Used oil containing more than 1000 ppm of total halogens is presumed to be mixed with chlorinated hazardous waste listed in Part 261, Subpart D of this chapter. Persons may rebut this presumption by demonstrating that the used oil has not been mixed with hazardous waste. EPA will not presume mixing has occurred if the used oil does not contain significant concentrations of chlorinated hazardous constituents listed in Appendix VIII of Part 261 of this chapter.

(e) *Definitions and other general provisions.* (1) The terms used in this Subpart, unless otherwise noted, have the meanings provided in §§ 260.10, 261.1, 261.2, and 261.3 of this chapter.

(2) The following general provisions of Part 260 apply throughout this subpart:

Section 260.2, availability and confidentiality of information; Section 260.3, use of number and gender; Section 260.11, references; and Subpart C, rulemaking petitions.

(3) *Authorized facilities.* When used in this Subpart, the term "authorized facility" means a facility authorized to manage recycled oil under one of the following authorities:

(i) The facility has been permitted by EPA under Part 270, Subparts A through E of this chapter; or

(ii) The facility has been permitted-by-rule under § 270.60 of this chapter; or

(iii) The facility has been permitted by a State with a hazardous waste program approved by EPA under Part 271 of this chapter; or

(iv) The facility is in interim status under section 3005(e) of RCRA and Part 270, Subpart G of this chapter.

§ 266.41 Standards for generators.

(a) *Applicability.*—(1) *General.* This section applies to generators of recycled oil, including persons who aggregate household-generated recycled oil and persons who recover used oil from oily wastewater (for recycling), but not to small quantity recycled oil generators who comply with § 266.40(c) of this subpart.

(2) Owners and operators of facilities that recycle or store recycled oil are subject to paragraph (d) of this section in addition to § 266.43 of this subpart when they initiate off-site shipments.

(3) A generator who transports recycled oil off-site is subject to the transporter standards of § 266.42 of this subpart in addition to this section.

(4) A generator who uses recycled oil on-site in a manner constituting disposal as defined by § 266.20 of this chapter is subject to the standards for persons using hazardous waste in a manner constituting disposal of § 266.23 of this chapter in addition to this section.

(5) A generator who burns recycled oil on-site is subject to the burner standards of § 266.44 of this subpart in addition to this section.

(6) A person who collects recycled oil from small quantity recycled oil generators under § 266.40(c) of this subpart is subject to the transporter standards of § 266.42 of this subpart but is not subject to this section.

(b) *Identification numbers.* Generators must comply with § 262.12 of this chapter.

(c) *On-site storage.* Except as provided by this paragraph a generator who stores on-site is subject § 266.43 of this subpart as well as this section. Generators who meet the following requirements are not subject to § 266.43 of this subpart:

(1) The generator only stores recycled oil in either tanks or containers;

(2) Recycled oil is stored on-site no longer than 90 days;

(3) Tanks and containers must be clearly labeled with the term "RECYCLED OIL;"

(4) *Container standards.* Generators storing in containers must comply with the following requirements from Subpart I of Part 265 of this Chapter:

Section 265.171, the condition of containers;

Section 265.173, the management of containers;

Section 265.174, inspections; and

Section 265.176, special requirements for ignitable waste.

(5) *Standards for tank systems.*

Generators storing in tanks must comply with the following requirements for tank systems:

(i) *Uncovered tanks* must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a secondary containment structure (*e.g.*, dike or trench) or a diversion structure (*e.g.*, standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank;

(ii) *Continuously fed tanks.* Where recycled oil is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (*e.g.*, a waste feed cutoff system or bypass system to a standby tank);

(iii) *Tank system inspection requirements.* The generator must conduct and document an inspection of (where present):

(A) Discharge control equipment (*e.g.*, waste-feed cutoff systems, bypass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(B) Data gathered from monitoring equipment (*e.g.*, pressure and temperature gauges) and leak detection equipment, at least once each operating day, to ensure that the tank system and leak detection system (if any) are being operated according to their design;

(C) For uncovered tanks, the level of recycled oil in the tank at least once each operating day;

(D) The aboveground portions of the tank system, if any, at least once each operating day, to detect corrosion or leaking of fixtures, joints, or seams; and

(E) The construction materials of, and the area immediately surrounding the externally accessible portion of the tank system and secondary containment structure (if any) at least weekly to detect erosion or signs of leakage (*e.g.*, oil spots, dead vegetation).

(iv) *Closure of tank systems.* At closure, all recycled oil and associated residues must be removed from tanks, discharge control equipment, and discharge confinement structures (if present).

Note.—Used oil and associated residues removed at closure are subject to this subpart if recycled. If disposed of (or if mixed with another hazardous waste) the used oil and residues are subject to the hazardous waste regulations of Parts 261–265 of this chapter.

(v) *Special requirements for ignitable recycled oil.* A generator who stores ignitable recycled oil, as defined by § 261.21 of this chapter, must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquid's Code" 1977 or 1981 [incorporated by reference, see § 260.11 of this chapter].

(vi) *Special requirements for tank systems that are leaking or otherwise unfit-for-use.* A generator with a tank system that is leaking or otherwise unfit-for-use must comply with the following in addition to otherwise applicable paragraphs of this section:

(A) A tank system found to be leaking must be immediately removed from service and the generator must satisfy the following requirements:

(1) The flow or addition of recycled oil into the tank system must be stopped immediately;

(2) The remaining recycled oil in the tank system (or its secondary containment system, if any) must be removed as quickly as possible and no later than 24 hours after detection of the leak so that no further release of recycled oil is permitted to occur and inspection or repair of the tank system can be performed;

(3) Necessary steps must be immediately taken to contain any visible contamination resulting from a release from the tank system that has occurred or is occurring; and

(4) The Regional Administrator must be notified within 24 hours after confirmation of the leak.

(B) Tank systems taken out of service in accordance with paragraph (c)(5)(vi)(A) of this section must be (at the option of the generator) either:

(1) Closed in accordance with Paragraph (c)(5)(v) of this section; or

(2) Repaired; or

(3) Replaced.

(C) When the generator repairs or replaces a tank system under paragraph (c)(5)(vi)(B) of this section, he must then comply with the standards for new tank systems in paragraph (c)(5)(vii) of this section.

(vii) *Special requirements for new tank systems.* A generator who installs a tank system after [reserved for the effective date of these regulations] must comply with the following requirements in addition to otherwise applicable paragraphs of this section:

(A) [Reserved for secondary containment standards]; and

(B) [Reserved for closure and post-closure requirements].

(6) *Standards for facility management.* Generators must comply with the following requirements:

(i) *Required items.* The following items must be on-site:

(A) A telephone;

(B) An appropriate number and type of portable fire extinguishers; and

(C) Absorbents (e.g., sawdust) or other spill control material.

Note.—Used oil spill clean-up materials and used oil-soaked absorbents are hazardous wastes. If recycled, the materials are subject to this Subpart. If disposed of, the material is subject to full regulation as hazardous waste under Parts 261-265, 270, and 124 of this chapter.

(ii) *Emergency coordinator.* At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (c)(6)(v) of this section. This is the emergency coordinator.

(iii) *Arrangements with local authorities.* The generator must request an inspection by the local fire department to familiarize the fire personnel with the layout of the facility, where oil is stored, and entrances to and roads within the facility, and to determine that an appropriate number and type of fire extinguishers are present. Where the fire department declines to conduct such an inspection, the generator must document such refusal and keep a record of the refusal at the facility.

(iv) *Posting of information.* The generator must post the following information next to the telephone:

(A) Name and telephone number of the emergency coordinator;

(B) Location of fire extinguishers, spill control materials, and if present, fire alarm; and

(C) Telephone number of the fire department, unless the facility has a direct alarm.

(v) *Emergency procedures.* Either the emergency coordinator or his designee must respond to emergencies as follows:

(A) In the event of a fire, attempt to extinguish it using a fire extinguisher and call the fire department;

(B) In the event of a spill, contain the flow of oil to the extent possible and as soon as practical clean-up the oil and any contaminated materials or soil;

(C) When either the fire department must be summoned or when a spill reaches surface waters or an adjoining shoreline the generator must file a report with the Regional Administrator within 15 days including the following:

(1) The name, address, and EPA identification number of the generator;

(2) Date, time, and type of incident (e.g., spill or fire);

(3) Quantity of oil involved in the incident;

(4) Extent of injuries, if any; and

(5) Estimated quantity and disposition of recovered materials.

(vi) *Personnel training.* The generator must ensure that all employees are thoroughly familiar with proper handling and emergency procedures under paragraph (c) of this section.

(d) *Shipments off-site.* A generator or an owner or operator who initiates a shipment off-site must comply with the following:

(1) *General.* (i) A generator (or owner or operator) must comply with the pre-transport requirements of §§ 262.30, 262.31, 262.32, and 262.33 of this chapter, and the international shipment requirements of § 262.50 of this chapter.

(ii) Except as provided by paragraph (d)(2) of this section, a generator (or owner or operator) must comply with the manifest requirements of Part 262, Subpart B of this chapter, and the exception reporting requirements of § 262.42 of this chapter.

(2) *Special requirements when a recycling contract exists.* When the conditions of paragraph (d)(2)(i) of this section are met, the generator (or owner or operator) may, at his option, comply with paragraph (d)(2)(ii) of this section in lieu of the manifest requirements of Part 262, Subpart B of this chapter, and the exception reporting requirements of § 262.42 of this chapter.

(i) *Conditions.* The generator (or owner or operator) must either:

(A) Enter into a written agreement for delivery of recycled oil to an authorized facility. The generator (or owner or operator) must keep a copy of each agreement at his site for as long as the agreement is in effect; or

(B) Manage the recycled oil at a facility that he owns and that is authorized to manage recycled oil.

Note.—Section 268.40(e)(3) defines the types of facilities authorized to manage recycled oil.

(ii) *Requirements.*—(A) *Required notices.* The generator (or owner or operator), before initiating a shipment off-site, must obtain a one-time written and signed notice from the owner or operator of the receiving facility certifying that the facility is authorized to manage recycled oil, and including the facility's EPA identification number. The generator (or owner or operator) must keep each written notice received

for at least three years from the date recycled oil is last sent to the facility.

(B) *Designated facilities.* When offering a shipment of recycled oil to a transporter, the generator (or owner or operator) must provide the transporter with the names, addresses, and EPA identification numbers of those facilities who have provided the written notice required by paragraph (d)(2)(ii)(A) of this section.

(C) *Records of shipments.* For each shipment off-site, the generator (or owner or operator) must record the following information. The records must be retained for at least three years from the date of shipment. Required information:

- (1) The name, address, and EPA identification number of the transporter;
- (2) The quantity of recycled oil being shipped; and
- (3) The date of shipment.

§ 266.42 Standards for transporters.

(a) *Applicability.* (1)(i) This section applies to transporters of recycled oil, including persons who collect from small quantity recycled oil generators under § 266.40(c)(2) of this subpart;

(ii) This section does not apply to on-site transportation either by generators or by owners or operators of facilities.

(iii) This section does not apply to transportation of the recycled oils exempted under §§ 266.40(a)(2) and 266.40(b) of this subpart, nor to transportation of household-generated recycled oil from households to collection centers.

(2) A transporter is subject to the generator standards of § 266.41 of this Subpart in addition to this section if he:

- (i) Transports recycled oil into the United States from abroad; or
 - (ii) Mixes recycled oils of different DOT shipping descriptions by placing them in the same container.
- (3)(i) Except as provided by paragraph (a)(3)(ii) of this section, a transporter who recycles or stores recycled oil at a facility is subject to the standards for used oil recycling facilities of § 266.43 of this subpart.
- (ii) Storage of recycled oil at a transfer facility for a period not exceeding 10 days is exempt from § 266.43 of this subpart and from permitting under Part 270 of this chapter, provided the following conditions are met:

(A) Containers used for storage must meet applicable packaging requirements of the U.S. Department of Transportation under 49 CFR Parts 173, 178, and 179; and

(B) [Reserved for tank system-secondary containment standards.]

(b) Identification numbers.

Transporters must comply with § 263.11 of this chapter.

(c) *Discharges.* Transporters must comply with Part 263, Subpart C of this chapter.

(d) *Manifested shipments.* When a transporter accepts a shipment of recycled oil accompanied by a hazardous waste manifest he must comply with the manifest and recordkeeping requirements of Part 263, Subpart B of this chapter.

(e) *Shipments without manifests.* A transporter may accept recycled oil from a generator without a hazardous waste manifest under the special conditions of either § 266.40(c)(2) of this subpart pertaining to small quantity recycled oil generators or of § 266.41(d)(2)(i) of this subpart pertaining to recycling contracts. When so accepting unmanifested shipments, the transporter must comply with the following requirements in lieu of Part 263, Subpart B of this chapter.

(1) *Record of acceptance.* For each acceptance, the transporter must record the following information. The record must be retained for at least three years from the date of acceptance. Required information:

- (i) The name, address, and (when applicable) EPA identification number of the generator (or the owner or operator) offering the shipment;
- (ii) The quantity of recycled oil accepted;
- (iii) The proper shipping name of the oil under U.S. Department of Transportation rules in 49 CFR Part 172; and
- (iv) The date the recycled oil is accepted.

(2) *Delivery.* Transporters must deliver all recycled oil accepted within 35 days of acceptance to a facility that meets the following conditions:

- (i) The facility is authorized to manage recycled oil; and
- (ii) Except for recycled oil collected from small quantity recycled oil generators under § 266.40(c) of this subpart, the facility is one of the facilities designated according to § 266.41(d)(2)(ii)(B) of this subpart; and
- (iii) When recycled oil is collected from small quantity recycled oil generators under § 266.40(c)(2) of this subpart, the transporter must, before delivering oil to a facility, obtain from the owner or operator of the facility a one-time written and signed notice certifying that the facility is authorized to manage recycled oil, and including the facility's EPA identification number. The transporter must keep each notice received for at least three years from the

date recycled oil is last delivered to the facility.

(3) *Records of delivery.* For each delivery, the transporter must record the following information. The records must be retained for at least three years from the date of delivery. Required information:

- (i) The name, address, and EPA identification number of the receiving facility;
- (ii) The quantity of recycled oil delivered; and
- (iii) The date of delivery.

§ 266.43 Standards for owners and operators of used oil recycling facilities.

(a) *Applicability.*—(1) *General.* (i) This section applies to owners and operators of facilities that recycle or store recycled oil, including, but not limited to: Reclaimers, reproducers, re-refiners, blenders, and burners. A facility subject to any paragraph of this section will be known as a "used oil recycling facility."

(ii) This section does not apply to facilities that only manage recycling oil that has been exempted under §§ 266.40(a)(2) and 266.40(b) of this subpart.

(2) *Generators.* (i) Except as provided by §§ 266.40(c) and 266.41(c) this subpart, generators who recycle or store recycled oil are subject to this section as well as § 266.41 of this subpart.

(ii) Except as provided by the conditional exemptions §§ 266.40(a)(2) and 266.40(b) of this subpart, an owner or operator who initiates a shipment off-site must comply with § 266.41(d) of the generator requirements of this subpart.

(3) *Transporters.* Except as provided by the special provisions of § 266.42(a)(3) of this subpart for transfer facilities, a transporter who recycles or stores recycled oil at a facility is subject to this section as well as § 266.42 of this subpart.

(4) *Recyclers without storage.* (i) Except as provided by paragraph (a)(4)(ii) of this section, the owner or operator of a facility who recycles but does not store recycled oil is subject only to the following requirements from this part or Part 264 of this chapter, as applicable:

- Section 264.11, EPA identification numbers;
- Section 264.12, required notices;
- Section 266.23, standards for uses constituting disposal;
- Section 266.41(d), requirements for shipments sent off-site;
- Section 266.43(b)(1), (b)(2), and (b)(3), analysis requirements;
- Section 266.43(e), acceptance of recycled oil from off-site;
- Section 266.43(f), recordkeeping and reporting; and
- Section 266.44, the standards for burners.

(ii) The owner or operator of a facility who recycles used oil in a surface impoundment is subject to all applicable paragraphs of this section, not to the reduced requirements of paragraph (a)(4)(1) of this section.

(5) *Additional requirements for certain facilities.* In addition to all other applicable provisions of this Subpart, the following owners and operators are subject to additional requirements as follows:

(i) An owner or operator of any of the following kinds of facilities must comply with Part 270, Subpart G of this Chapter pertaining to requirements for interim status facilities:

(A) A facility where recycled oil is stored or recycled in a surface impoundment; or

(B) A facility where hazardous waste is managed in addition to recycled oil; or

(C) A facility where recycled oil is managed in a manner constituting disposal (as defined by § 266.20 of this Chapter).

Note.—A facility that has received a permit under Part 270 or Part 271 of this chapter is not eligible for interim status. In order to manage recycled oil, a facility that has received a permit must comply with §§ 124.5 and 270.41 pertaining to permit modifications.

(ii) An owner or operator who uses recycled oil in a manner constituting disposal (as defined in § 266.20 of this chapter is subject to § 266.23 of this chapter.

(iii) An owner or operator who burns recycled oil for energy recovery is subject to § 266.44 of this subpart.

(iv) An owner or operator who is either excluded from permitting-by-rule under § 270.60(d)(1) of this chapter, or who is required to obtain an individual facility permit under § 270.60(d)(3) of this chapter, must comply with § 264.101 of this chapter pertaining to corrective measures for releases from solid waste management units, as applicable.

(b) *General facility standards.* The owner or operator must comply with Part 264, Subpart B of this chapter, except that in lieu of the analysis requirements of § 264.13 of this chapter, the owner or operator must comply with paragraphs (b)(1) through (b)(3) of this section.

(1) *Analysis requirements.* The owner or operator must perform sampling and analysis as necessary to comply with applicable provisions of this Subpart. At a minimum, the analysis must include the following:

(i) *Halogens.* The owner or operator must determine the total halogen content of used oil managed at the facility. Used oil containing more than

1000 ppm total halogens is presumed to be mixed with chlorinated hazardous waste listed in Part 261, Subpart D of this chapter. Persons may rebut this presumption by demonstrating that the used oil has not been mixed with hazardous waste. EPA will not presume that used oil has been mixed with hazardous waste if it does not contain significant concentrations of chlorinated hazardous constituents listed in Appendix VIII of Part 261 of this chapter.

(ii) *Ignitability.* The owner or operator must determine whether recycled oil managed at the facility is ignitable according to § 261.21 of this chapter, unless all recycled oil is managed as ignitable waste under §§ 264.17, 264.176, and 264.198 of this chapter;

(iii) *Specification fuel.* An owner or operator who produces fuel he claims is exempt from regulation under § 266.40(a)(2) of this subpart ("specification fuel") must analyze the fuel for arsenic, cadmium, chromium, lead, total halogens, and flashpoint. An owner or operator who produces specification fuel is subject to § 266.40(b)(1) of this subpart as well as this section.

(iv) *Mixing indicator parameters for hazardous waste facilities.* The owner or operator of a facility where hazardous waste is managed in addition to recycled oil must comply with the following in addition to applicable the requirements of paragraphs (b)(1)(i), (b)(1)(ii), (b)(1)(iii) of this section:

(A) For each hazardous waste managed at the facility, the owner or operator must identify at least one indicator parameter that is found in the hazardous waste but not normally found in the recycled oil managed at the facility. For wastes listed in Part 261, Subpart D of this chapter, the indicator parameter would normally be the constituent specified in Appendix VII of Part 261, Subpart D of this chapter as the basis for listing; however, the Regional Administrator may, on a case-by-case basis, specify one or more alternate or additional indicator parameters; and

(B) The owner or operator must analyze the recycled oil managed at the facility for the parameters identified in paragraph (b)(1)(iv)(A) of this section to document that no mixing of hazardous waste and recycled oil occurs.

(2) *Analysis plan.* The owner or operator must develop and follow a written analysis plan describing the procedures he will use to comply with paragraph (b)(1) of this section. He must keep the plan at the facility. At a minimum, the plan must specify the following:

(i) The methods used to analyze recycled oil for the parameters specified in paragraph (b)(1) of this section;

(ii) The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:

(A) One of the sampling methods in Appendix I of Part 261 of this chapter; or

(B) A method shown to be equivalent under §§ 260.20 and 260.21 of this chapter.

(iii) For paragraphs (b)(1)(i) and (b)(1)(ii) of this section, whether samples or other information will be obtained from generators, or alternatively, whether analyses will be performed on incoming shipments of recycled oil;

(iv) For paragraph (b)(1)(iii) of this section, whether recycled oil will be sampled and analyzed prior to or after any blending or treatment in the course of fuel production; and

(v) For all requirements in paragraph (b)(1) of this section, the frequency of sampling to be performed, and whether analysis will be performed on-site or off-site.

(3) *Analysis records.* Records of analyses conducted to comply with this paragraph must be maintained at the facility as part of the facility's operating record.

(c) *Preparedness and prevention.* The owner or operator must comply with Part 264, Subpart C of this chapter.

(d) *Contingency plan and emergency procedures.* The owner or operator must comply with Part 264, Subpart D of this chapter.

(e) *Acceptance of recycled oil from off-site.*—(1) *Manifested recycled oil.* (i) When a shipment of recycled oil accompanied by a hazardous waste manifest is accepted, the owner or operator must comply with §§ 264.71 and 264.72 of this Chapter.

(2) *Unmanifested recycled oil.* (i) When recycled oil is accepted without a manifest in compliance with the special provisions of §§ 266.41(d)(2) and 266.42(e) of this subpart, the owner or operator must record the following information for each acceptance. The records must be retained for at least three years from the date of acceptance. Required information:

(A) The name, address, and EPA identification number of the transporter;

(B) The name, address, and (when applicable) EPA identification number of each generator who contributed to the shipment;

(C) The quantity of recycled oil accepted; and

(D) The date of acceptance.

(ii) When recycled oil is delivered without a manifest but arrangements have not been made under §§ 268.41(d)(2) and 268.42(e) of this chapter, the owner or operator must comply with § 264.76 of this chapter pertaining to unmanifested waste reports.

(3) **Hazardous waste mixtures.** When an owner or operator determines through analysis required by paragraph (b)(1)(i) of this section or other means that an incoming shipment (that was expected to be recycled oil but instead) has been mixed with hazardous waste, he must:

(i) Either refuse to accept the shipment, or accept the shipment and manage the mixture as hazardous waste under Parts 262-265, Part 266 Subparts C and D, and Parts 270 and 124 of this chapter; and

Note.—Under §§ 262.20 and 263.21, when a shipment of hazardous waste cannot be delivered to the generator's designated facility, the transporter must take the waste to an alternate facility or return it to the generator.

(ii) If the shipment is not manifested, comply with the requirements of § 264.76 of this chapter pertaining to unmanifested waste reports.

(f) **Recordkeeping and reporting.** In addition to the requirements of paragraphs (b)(3) and (e) of this section, the owner or operator must comply with the following record-keeping and reporting requirements from Part 264 of this chapter:

Section 264.73, operating record;
Section 264.74, availability, retention, and disposition of records;
Section 264.75, biennial report; and
Section 264.77, additional reports.

(g) **Closure, post-closure, and financial requirements.** (i) Owners or operators must comply with Subparts G and H of Part 265 of this chapter.

(ii) The owners or operator of any of the facility types excluded from permitting-by-rule under § 270.60(d)(1) of this chapter, or who is required to obtain an individual permit under § 270.60(d)(3) of this chapter, must comply with Subparts G and H of Part 264 of this chapter as well as Subparts G and H of Part 265 of this chapter.

(h) **Storage requirements—(1) Containers.** An owner or operator who stores recycled oil in containers is subject to Part 264, Subpart I of this chapter.

(2) **Tank systems.** (i) An owner or operator who stores recycled oil in tanks is subject to Part 265, Subpart J of this chapter.

(ii) The owner or operator of any of the facility types excluded from

permitting-by-rule under § 270.60(d)(1) of this chapter, or who is required to obtain an individual permit under § 270.60(d)(3) of this chapter, must comply with Part 264, Subpart J as well as Part 265, Subpart J of this chapter.

(3) **Surface impoundments.** An owner or operator who recycles or stores recycled oil in a surface impoundment is subject to Part 265, Subparts F and K and Part 264, Subparts F and K of this chapter.

§ 268.44 Standards for burners.

(a) **Applicability.** (1) **General.** (i) This section applies to any person (by site) who burns recycled oil. A person who burns will be known as a "burner."

(ii) This section does not apply when the special requirements of § 266.40(b)(1) pertaining to specification fuel are complied with.

(iii) This section does not apply to small quantity recycled oil generators who burn on-site in compliance with § 266.40(c)(1) of this subpart.

(2) Generators who burn on-site are subject to § 266.41 of this subpart in addition to this section.

(3) Burners are subject to the standards for used oil recycling facilities in § 266.43 of this subpart in addition to this section.

(b) [Remainder of this section reserved for substantive standards for burners.]

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

9. The authority citation for Part 270 is revised to read as follows:

Authority: Secs. 1008, 2002(a), 3005, 3007, 3014, and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6901, 6912(a), 6925, 6927, 6934, and 6974] unless otherwise noted.

10. In Part 270, a new definition is added to § 270.2 to read as follows:

• • • • •

§ 270.2 Definitions.

• • • • •

"Recycled oil" means used oil that is either burned for energy recovery, used to produce a fuel, reclaimed (including used oil that is reprocessed or re-refined), or otherwise recycled, or that is accumulated, collected, stored, transported, or treated prior to recycling.

(a) [Reserved to define specific types of burning considered to be recycling.]

(b) The term includes mixtures of recycled oil and other materials, but not mixtures containing hazardous waste (other than used oil). Used oil containing

more than 1000 ppm of total halogens is presumed to be mixed with chlorinated hazardous waste listed in Part 261, Subpart D of this chapter. Persons may rebut this presumption by demonstrating that the used oil has not been mixed with hazardous waste. EPA will not presume mixing has occurred if the used oil does not contain significant concentrations of chlorinated hazardous constituents listed in Appendix VIII of Part 261 of this Chapter.

• • • • •

11. In § 270.10, paragraph (a) is revised to read as follows:

§ 270.10 General application requirements.

(a) **Permit application.** (1) Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the Director as described in this section and §§ 270.70 through 270.73.

(2) Persons currently authorized with interim status shall apply for permits when required by the Director.

Except as provided by this paragraph for used oil recycling facilities, persons covered by RCRA permits-by-rule (§ 270.60) need not apply. The owner or operator of a used oil recycling facility who is not excluded from permit-by-rule eligibility by § 270.60(d)(1) of this part but who is not in full compliance with the permit-by-rule requirements of § 270.60(b)(2) of this Part as of [insert effective date of the final rule § 270.60(d)(2)] must provide written notice to EPA, by [insert effective date of the final rule § 270.60(d)(2)] that notification information submitted to EPA pursuant to RCRA section 3010 is intended to also satisfy the RCRA section 3005(e)(1)(C) "permit application" requirements for interim status.

(4) Procedures for applications, issuance, and administration of emergency permits are found exclusively in § 270.61.

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12. In Part 270, a new paragraph (d) is added to § 270.60 to read as follows:

• • • • •

§ 270.60 Permits by rule.

• • • • •

(d) **Used oil Recycling Facilities.** Except as provided by paragraph (d)(1) or (d)(3) of this section, the owner or operator of a facility that recycles or stores recycled oil, if the owner or operator complies with the requirements of paragraph (d)(2) of this section.

(1) *Exclusions from the permit-by-rule.* Owners and operators of the following kinds of facilities are not eligible for the permit-by-rule, and are subject to individual permitting under this Part:

(i) Recycled oil is stored in a surface impoundment; or

(ii) Recycled oil is used at the facility in a manner constituting disposal, as defined by § 266.20 of this Chapter; or

(iii) Other hazardous wastes are managed at the facility in addition to recycled oil.

(2) *Requirements.* An owner or operator not excluded from permit-by-rule eligibility by paragraph (d)(1) of this section must comply with the following requirements:

(i) *Standards.* The owner or operator must comply with §§ 266.43 and 266.44 of this Chapter, including amendments or modifications to § 266.43 or § 266.44 of this chapter within time limits as specified in the Federal Register;

(ii) *Duty to comply.* The owner or operator must comply with all conditions of § 266.43 and 266.44 of this chapter except that the owner or operator need not comply with the conditions to the extent and for the duration such non-compliance is authorized in an emergency permit as provided by § 270.61 of this Part. Any non-compliance, except under the terms of an emergency permit, constitutes a violation of the Act and is grounds for an enforcement action.

Note.—When there is a violation of § 270.60(d)(2) of this Part, the EPA Regional Administrator may take enforcement action under section 3008 of RCRA. Such action may include compliance orders and schedules, including monitoring schedules, and including revocation of authorization to manage recycled oil, as appropriate.

(iii) *Need to halt or reduce activity not a defense.* It shall not be a defense for an owner or operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the requirements of § 266.43 or § 266.44 of this chapter.

(iv) *Duty to minimize.* In the event of noncompliance, the owner or operator must take all reasonable steps to minimize releases to the environment, and must carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(v) *Proper operation and maintenance.* The owner or operator must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the owner or operator to

achieve compliance with § 266.43 or § 266.44 of this chapter. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

(vi) *Property rights.* The permit-by-rule of this section does not convey any property rights of any sort, nor any exclusive privilege.

(vii) *Duty to provide information.* The owner or operator must furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for revocation of permit-by-rule authorization or for requiring an individual permit, or to determine compliance with § 266.43 or § 266.44 of this chapter. The owner or operator must also furnish to the Director, upon request, copies of records required to be kept by § 266.43 or § 266.44 of this chapter.

(viii) *Inspection and entry.* The owner or operator must allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law to:

(A) Enter at reasonable times upon the owner or operator's premises where a regulated facility or activity is located or conducted, or where records must be kept under § 266.43 or § 266.44 of this chapter;

(B) Have access to and copy, at reasonable times, any records that must be kept under § 266.43 or § 266.44 of this chapter;

(C) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under § 266.43 or § 266.44 of this chapter; and

(D) Sample or monitor at reasonable times, for the purposes of assuring compliance with § 266.43 or § 266.44 or as otherwise authorized by the Act, any substances or parameters at any location.

(ix) *Representative sampling.* Samples and measurements taken to comply with § 266.43 or § 266.44 of this chapter must be representative of the volume and nature of the sampled or measured activity.

(x) *Recording of monitoring.* The owner or operator must retain records of all monitoring information and copies of all reports required for a period of at least 3 years from the date of the sample, measurement, or report. Records of monitoring must include:

(A) The date, exact place, and time of sampling or measurement;

(B) The individual(s) who performed the sampling or measurements;

(C) The dates analyses were performed;

(D) The individual(s) who performed the analyses;

(E) The analytical techniques or methods used; and

(F) The results of such analyses.

(xi) *Operating record.* A written operating record must be kept at the facility. The following information must be recorded as it becomes available and maintained in the operating record until facility closure:

(A) A description of and the quantity of recycled oil managed at the facility;

(B) The location of recycled oil stored at the facility and the quantity stored at each location;

(C) Summary reports and details of all incidents that require implementation of the contingency plan;

(D) Records and results of inspections (including the date and nature of any necessary repairs); and

(E) Results of any monitoring performed to comply with § 266.43 or § 266.44 of this chapter.

(xii) *Signatory requirement.* All reports or information submitted to the Director must be signed by a responsible corporate officer [as defined by § 270.11(a)(1) of this part], by a general partner, by the sole proprietor, or by the principal executive officer or ranking elected official, and must include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(xiii) *Anticipated noncompliance.* The owner or operator must give notice to the Director of any planned changes in the facility or activity which may result in noncompliance with either § 266.43 or § 266.44 of this chapter.

(xiv) *24 hour reporting.* (A) The owner or operator must report any noncompliance which may endanger human health or the environment orally within 24 hours from the time he or she becomes aware of the circumstances, including:

(1) Information concerning release of any recycled oil or hazardous

constituent thereof that may cause an endangerment to public drinking water supplies; and

(2) Any information of a release or discharge of recycled oil or hazardous constituent thereof or of a fire or explosion from the facility, which could threaten the environment or human health outside the facility.

(B) The description of the occurrence and its cause must include:

(1) The name, address, and telephone number of the owner or operator;

(2) The name, address, and telephone number of the facility;

(3) The date, time, and type of incident;

(4) The name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment outside the facility, if applicable; and

(7) Estimated quantity and disposition of recovered material, if any, resulting from the incident.

(C) A written submission must also be provided within 5 days of the time the owner or operator becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Director may waive the 5 day written notice requirement in favor of a written report within 15 days.

(xv) *Biennial report.* The owner or operator must prepare and submit a single copy of a biennial report to the Director by March 1 each even-numbered year. The report must cover activities of the previous year (odd-numbered year) and must be prepared in accordance with the requirements of § 284.75 of this chapter and submitted on EPA Form 8700-1 3B.

(xvi) *Other information.* When the owner or operator becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in any report to the Regional Administrator, he or she must promptly submit corrected information or additional facts.

(3) *Individual permits.* (i) The Director may require an owner or operator to apply for and (as a condition of continued operation) obtain an individual RCRA facility permit under this Part if he obtains information through site inspections or other means indicating any of the following conditions:

(A) The owner or operator has not met one of the requirements of paragraph (d)(2) of this section; or

Note.—The EPA Regional Administrator may, in addition to requiring an individual permit, take enforcement action under section 3008 of RCRA for a violation of § 270.60(d)(2) of this chapter.

(B) The facility, because of the type or quantities of recycled oil being managed, or the management methods in use, or the facility's location, or other relevant factors, could in the judgment of the Director, pose a substantial potential or present hazard to human health or the environment and that individual facility permitting under this Part is necessary to provide adequate protection; or

(C) There has been a release of recycled oil, hazardous waste, or a hazardous constituent from a solid waste management unit at the facility to the environment and in the judgment of the Director, the corrective action measures implemented by the owner or operator are inadequate to ensure protection of human health and the environment.

Note.—When an owner or operator is required to obtain an individual RCRA permit, he is subject to § 264.101 of this chapter pertaining to corrective action for releases from solid waste management units, as applicable.

(ii) Within 180 days of notification by EPA that an individual RCRA facility permit is required, the owner or operator must submit Part B of the RCRA permit application under Subpart B of this part. The owner or operator remains subject to paragraph (b)(2) of this section until final disposition is made concerning the individual facility permit.

(iii) If the Director denies the owner's or operator's application for a permit he is not eligible for the permit-by-rule under paragraph (d) of this section.

Note.—The owner or operator of a facility whose permit application is denied is not eligible for interim status under section 3005(e) of RCRA.

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

13. The authority citation for Part 271 continues to read as follows:

Authority: Secs. 1006, 2002(a), and 3006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a) and 6926].

14. In Part 271, § 271.1(j) is amended by adding the following entry to Table 1

in chronological order by date of publication:

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Date of publication in the FEDERAL REGISTER	Title of regulation
(Insert date of publication of the final rule).	Standards for the Manage- ment of Recycled Oil

[FR Doc. 85-27902 Filed 11-27-85; 8:45 am]
BILLING CODE 6460-60-M

40 CFR Parts 260, 261, 271, and 302

[SWH-FRL-2873-6(a)]

Hazardous Waste Management System; General; Identification and Listing of Hazardous Waste; Used Oil

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is today proposing to amend the regulations for hazardous waste management under Subtitle C of the Resource Conservation and Recovery Act (RCRA), by listing used oil as a hazardous waste. EPA has determined that used oil typically and frequently contains significant quantities of lead and other metals, chlorinated solvents, toluene, and naphthalene which would pose a substantial hazard to human health and the environment, if improperly managed. Today's notice also proposes a regulatory definition of used oil and proposes two modifications to the mixture rule to exempt certain mixtures of used oil from regulation. Finally, because used oil will become a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as a result of today's listing, EPA is also proposing to adjust the statutory one pound CERCLA reportable quantity (RQ) for used oil to 100 pounds. The effect of today's proposal, if promulgated, would be to control the treatment and disposal of used oil (as well as its transportation, accumulation, or storage prior to treatment or disposal), by subjecting it to full hazardous waste regulation under Subtitle C of RCRA. At the same time, most used oil that is recycled would be subject to the special management standards for recycled oil being proposed in another Section of today's Federal Register.

DATES: EPA will accept public comments on this proposal until January 28, 1986. Public hearings will be held to obtain public comments on this proposal and the proposed management standards for recycled oil (appearing elsewhere in this Federal Register) on January 8, 10, and 16 of 1986. The locations for the public hearings are provided below; for additional information on the public hearings, see Part Four, Section III of the management standards preamble.

ADDRESSES: EPA will hold public hearings at the following locations:

- *January 8, 1986*—Holiday Inn, North Park Plaza, 10650 North Central Expressway, Dallas, Texas 75231 (Phone: 214/373-8000).

- *January 10, 1986*—Ramada Renaissance, 55 Cyril Magnin Street (One block north of 5th & Market), San Francisco, California 94102 (Phone: 415/392-8000)

- *January 16, 1986*—Department of Health and Human Services, North Auditorium ("C" Street entrance), 330 Independence Avenue SW, Washington, DC 20201.

Comments on this proposal should be mailed to the Docket Clerk (Docket No. 3001/Listing of Used Oil), Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. Comments received by EPA may be inspected in Room S-212, U.S. EPA, 401 M Street SW., Washington, DC, from 9:00 a.m. to 4:00 p.m. Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: The RCRA Hotline; call toll free at (800) 424-9346 or at (202) 382-3000. For technical information, contact Matthew Straus, Chief, Waste Identification Branch, Characterization and Assessment Division, Office of Solid Waste, (WH-562B), U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. Telephone: (202) 475-8551. Single copies of the proposal may be obtained by calling the RCRA Hotline at the number above.

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I. Introduction

A. Background

On December 18, 1978, EPA initially proposed guidelines and regulations for the management of hazardous wastes and specific rules for the identification and listing of hazardous wastes under Section 3001 of RCRA. See 43 FR 58946. At that time, EPA proposed to list waste lubricating oil¹ and waste hydraulic and cutting oil as hazardous wastes on the basis of their toxicity. In addition, we also proposed to regulate used lubricating, hydraulic, transformer, transmission, or cutting oil that was hazardous and was incinerated or burned as a fuel and waste oils (again, that were hazardous) that were used in a manner constituting disposal.² (See proposed § 250.10 where the Agency proposed to define the term "other discarded material" that is used in the definition of "solid waste.")

A large percentage of commenters on the 1978 proposal argued that the Agency should not list waste oil as hazardous because most waste oil was reused and was, therefore, not a waste; in addition, they argued that such a designation would have serious impacts on the recycling industry. Consequently, in its May 19, 1980 regulations, EPA decided to defer promulgation of rules covering the use or recovery of many

¹The term "waste oil" includes both used and unused oils which may no longer be used for their original purpose. While the Agency initially considered listing the entire waste oil universe, today's proposed rules apply only to that portion of the waste oil universe comprised of used oils.

²"Use in a manner constituting disposal" means the placement of hazardous waste directly onto the land for beneficial recycling or the placement of products which contain certain hazardous waste onto the land for beneficial recycling.

waste streams, including waste oil, in order to fully consider whether waste-and-use-specific standards should be implemented rather than imposing the full set of Subtitle C regulations on potentially recoverable and valuable materials. See 45 FR 33084. EPA stated in the preamble to those regulations that it intended to address the reuse and recovery of waste oil in the Fall of 1980. Since the Agency had anticipated controlling the recycling of used oil within a short time, it also decided not to list waste oil for disposal in the 1980 regulations in order to deal with the entire waste oil issue at one time. Under the May 19, 1980 regulations, however, used oil that exhibits any of the characteristics of hazardous waste (i.e., ignitability, corrosivity, reactivity, or extraction procedure (EP) toxicity) and is disposed (or accumulated, stored, or treated prior thereto) is hazardous and subject to full regulation under Subtitle C of RCRA.

B. Use Oil Recycling Act (UORA)

In an effort to encourage the recycling of used oil, and in recognition of the hazards posed by its mismanagement, on October 15, 1980, Congress passed the Used Oil Recycling Act (UORA) (Pub. L. 96-483). Among other provisions, the UORA required the Agency to make a determination as to the hazardousness of used oil and report such findings to Congress together with a detailed statement of the data and other information upon which the determination was based; in addition, the Agency was to establish performance standards and other requirements under Section 7 of the UORA as "may be necessary to protect the public health and the environment from hazards associated with recycled oil" as long as such regulations "do not discourage the recovery or recycling of used oil."

In January 1981, EPA submitted the Used Oil Report to Congress mandated by Section 8 of the UORA³ indicating in the report that the Agency intended to list both used and unused waste oil as hazardous under section 3001 of RCRA. The Agency based its intention to list both used and unused waste oils on the presence of a number of toxicants that are present in crude or refined oil (e.g., benzene, naphthalene, and phenols) as well as contaminants which are present in used oil as a result of use (e.g., lead, chromium, and cadmium).⁴

³Report to Congress: Listing of Waste Oil as a Hazardous Waste Pursuant to Section (8)(2), Pub. L. 96-483; U.S. EPA, 1981.

⁴In detailed comments on the Used Oil Report to Congress submitted to the Agency by the American

Continued

C. Hazardous and Solid Waste Amendments of 1984

On November 8, 1984, the President signed the Hazardous and Solid Waste Amendments of 1984 ("1984 Amendments"). These amendments, taken along with the provisions of section 3012 of RCRA (which incorporated section 7 of the UORA), establish the requirements for the regulation of used oil which are now embodied in section 3014 of Subtitle C of RCRA.⁵ Section 3014(a) requires the Administrator to:

... promulgate regulations . . . as may be necessary to protect the public health and environment from the hazards associated with recycled oil. In developing such regulations, the Administrator shall conduct an analysis of the economic impact of the regulations on the oil recycling industry. The Administrator shall ensure that such regulations do not discourage the recovery or recycling of used oil, consistent with the protection of human health and the environment.

These amendments alter EPA's mandate with respect to the regulation of used oil by stipulating that protection of human health and the environment is the prime consideration, even if such regulation may discourage the recovery or recycling of used oil, in some cases.

The comprehensive management standards for recycled used oil mandated by section 3014 are being proposed today in another section of today's Federal Register. A more detailed discussion of the background leading to the development of those management standards is contained in the notice.

Of specific relevance to today's proposed listing of used oil as a hazardous waste is section 3014(b) of RCRA which requires the Administrator to propose whether to list or identify used automobile and track crankcase oil as a hazardous waste by November 8, 1985, and to finalize that proposal as well as determine whether other used oil should be listed or identified as hazardous by November 8, 1986. Today's proposal reflects the Agency's determination that petroleum derived and synthetic used oil should be listed as a hazardous waste under Section 3001 of RCRA.

Petroleum Institute (API) in December 1961. API raised several issues relevant to the proposed listing of both used and unused "waste oils." Since the Agency is reproposing the listing of used oil as a hazardous waste, the Agency will not respond to specific comments on previous proposals regarding used oil. API's comments, however, are available for review in the RCRA docket.

⁵ Prior to the 1984 Amendments, the used oil requirements were found in section 3012 of RCRA.

Since a substantial amount of time has elapsed since the 1978 proposal and since the Agency has obtained extensive additional data on the constituents of used oil, the Agency has decided to repropose the listing of used oil and seek additional public comment, rather than publish the listing as a final rule. Consequently, persons who commented on the 1978 proposal should resubmit their comments or submit new comments for consideration in this rulemaking.

II. Relationship of Use Oil Listing to Section 3014 Management Standards for Recycled Oil

The management standards being proposed in another section of today's Federal Register are being issued under the authority of sections 3004 and 3014 of RCRA.⁶ Under section 3014 of RCRA, EPA is required to establish standards applicable to recycled used oil that will protect public health and the environment and, to the extent possible within that context, not discourage used oil recycling. Section 3014(c) provides specific guidance to EPA on the standards applicable to generators and transporters of recycled used oil that is identified or listed as hazardous under section 3001. Section 3014(d) provides that the owner or operator of a facility that recycles used oil is subject to the Section 3004 hazardous waste standards but is deemed to have a RCRA permit provided the recycling facility complies with those standards. Section 3014(d) also provides the Administrator with authority to require such owners or operators to obtain an individual permit under section 3005(c) if he determines that an individual permit is necessary to protect human health and the environment.

Today's proposed listing of used oil as a hazardous waste is based simply on EPA's determination that used oil meets the criteria for listing under section 3001 of RCRA. (See 40 CFR 261.11(a)(3).) Therefore, under today's proposed listing, disposal⁷ of hazardous used oil

⁶ EPA recently began the process of regulating used oil burned as a fuel by finalizing the "Phase I" management standards on the actual burning of used oil and administrative controls on persons who market and burn hazardous waste fuel and used oil fuel. The management standards for the recycling of used oil being proposed elsewhere in today's Federal Register will supplement the Phase I burning and blending rules as those rules apply to used oil.

⁷ For purposes of this rulemaking, the term "disposal" is simply intended to distinguish between the management of used oil under the existing provisions of Sections 3002 thru 3004 versus that used oil which is recycled and subject to the provisions of Section 3014. It does not reflect a rethinking of statutory or regulatory concepts of what constitutes "disposal".

will be subject to regulation under 40 CFR Parts 262-265, 124, and 270-271, while recycled used oil that is hazardous will be subject to the recycled used oil rules codified in 40 CFR Part 268.

Persons interested in commenting on this listing and/or on the 3014 standards should note that the scope of today's notice proposing to list used oil as a hazardous waste is different from that of the accompanying notice which proposes specific standards for the management of recycled oil under section 3014. The main issue relevant to the proposed listing of used oil is whether used oil meets the criteria for listing contained in § 261.11 (a)(3). However, other issues addressed in this notice that may also be of interest include the Agency's definition of used oil, modifications to the mixture rule to exempt certain oil mixtures from regulation, and the Agency's proposal to adjust the statutory RQ of used oil.

The second of today's proposals concerning used oil, on the other hand, seeks to address the broader issues concerning the *extent* of regulation that should be imposed on used oil recycling practices in order to protect human health and the environment and, to a lesser degree, the specific impacts of that regulation on the various segments of the recycling industry. The Agency's detailed analyses of the used oil universe, management practices, and regulatory and economic impacts are, therefore, to be found in the accompanying Federal Register proposal rather than in this notice.

III. Summary of Proposed Used Oil Listing

This notice proposes to amend 40 CFR Part 261, Subpart D, to add used oil to the list of hazardous wastes. As detailed in the Basis For Listing Section, below EPA has evaluated used oil against the criteria for listing hazardous wastes contained in § 261.11(a)(3) and has determined that it poses a substantial present or potential hazard to human health or the environment when improperly managed. This determination is based on analytical data from approximately a thousand used oil samples that indicate that a number of toxic constituents are typically and frequently present in used oil at levels of regulatory concern, either as a direct result of use or subsequent adulteration. In addition, these toxicants have the potential to migrate from used oil and escape into the environment. This has been demonstrated in a large number of damage cases where used oil was mismanaged and presented a

substantial hazard to human health and the environment.⁸

The toxic constituents of concern identified by the Agency include lead, three chlorinated aliphatic hydrocarbons (1,1,1-trichloroethane, trichloroethylene, and tetrachloroethylene), toluene, and naphthalene. EPA also has identified as constituents of concern several metals—cadmium, arsenic, and chromium—which are typically found in used oil at concentrations, which may pose a significant risk when used oil is burned.

A regulatory definition of used oil is being proposed today for inclusion in 40 CFR 260.10. The proposed definition of used oil includes all petroleum-derived or synthetic oils⁹ originally used as a lubricant (including engine oils), as a hydraulic fluid, as a metal working fluid (including cutting, grinding, and machining fluids, and rolling, stamping, quenching, and tempering oils), and as an insulating fluid or coolant.¹⁰ Except as provided below, the above used oils will all be considered hazardous wastes when disposed of, when recycled, or when accumulated, treated, stored or transported prior to disposal or recycling.

Excluded from the listing of used oil are crude or fuel oils spilled onto the land or water, and wastes from petroleum refining operations such as API separator sludge. Today's notice also proposes to exclude from the used oil listing re-refined oil used as a lubricant since the Agency has determined that re-refined oil that is used as a lubricant is not a solid waste and thus is not a hazardous waste. In addition, EPA is proposing to amend the mixture rule (§ 261.3(a)(2)) to exclude from regulatory control: (1) wastewaters contaminated with small amounts of used oil; and (2) industrial wipers (*i.e.* "oily rags") contaminated with used oil as a result of being used to clean the face and hands of the user or wipe or clean equipment or machinery.

Finally, EPA is proposing an amendment to 40 CFR Part 302 to list used oil as a CERCLA hazardous substance and is proposing to establish a reportable quantity (RQ) for used oil of 100 pounds.

⁸See the *Background Document for Used Oil* for discussion of damage incidents at used oil facilities.

⁹Synthetic oils are being included in today's listing for the reasons set forth in Section IV.B.

¹⁰In addition, oil derived from pyrolysis of scrap tires would also be covered by the used oil listing after use and contamination.

IV. Applicability and Scope of Used Oil Listing

A. Authority to List Used Oil as a Hazardous Waste

Section 3001 of RCRA provides the Agency with the general statutory authority under RCRA for identification and listing of hazardous wastes. The 1984 Amendments to RCRA specifically require EPA to exercise this authority and propose whether to list or identify used automobile and truck crankcase oil as a hazardous waste by November 8, 1985, and to finalize that proposal as well as determine whether other used oil should be listed or identified as hazardous by November 8, 1986. (See section 3014(b).)

These amendments also affirm the Agency's authority to regulate, as a hazardous waste, used oil that is recycled, even though such regulation may have a discouraging effect on some recycling. Prior to the 1984 amendments, the Agency was directed to ensure that its regulations did not "discourage the recovery or recycling of used oil." However, the 1984 amendments deleted this language with respect to the listing decision and modified it for the used oil management standards by adding the phrase "consistent with protection of human health and the environment." By doing this, Congress clearly intends for the Agency to regulate recycling activities sufficiently to assure adequate protection while reducing, as much as possible, the impact on the recycling industry as a whole. The conference report accompanying the 1984 amendments specifically notes that "... [T]he purpose of the provisions is to clarify the intent of section 3014 in order to assure that EPA's regulations in this area are protective of human health and the environment. . . . It was never Congress' intent that protection of human health and the environment be subordinated to the continuation of used oil recycling activities. The Agency can and should prohibit or control used oil recycling practices that it determines will pose a potential hazard to human health and the environment even though such regulations would impede recycling." (See H.R. Conf. Rep. No. 1133, 98th Cong. 2nd Sess. 113 (1984)).

B. Scope of Used Oil Listing

As discussed earlier in this preamble, today's proposed listing applies to used oil when disposed of, recycled, or when accumulated, stored, or treated prior to being disposed or recycled. This section discusses EPA's regulatory definition of "used oil" as well as the special status of re-refined oil. Lastly, this section will explain the amendments to the mixture

rule contained in § 261.3(a)(2) that will propose to remove from regulatory control: (1) Wastewaters that are contaminated with small amounts of used oil; and (2) industrial wipers used to clean up small oil spills and wipe or clean equipment, machinery, or the face and hands of the user.

1. *Definition of Used Oil.* EPA is proposing a definition in 40 CFR 260.10 for "used oil" as follows:

"Used Oil" is petroleum-derived or synthetic oil including, but not limited to, oil which is used as a: i) Lubricant (engine, turbine, or gear); ii) Hydraulic fluid (including transmission fluid); iii) Metalworking fluid (including cutting, grinding, machining, rolling, stamping, quenching, and coating oils); or iv) Insulating fluid or coolant, and which is contaminated through use or subsequent management.

This definition would include those used oils that are contaminated with PCB's. However, it should be noted that the use of used oils containing any concentration of PCBs and the disposal of used oils containing 50 ppm or greater of PCBs are subject to the TSCA PCB rules promulgated under 40 CFR Part 761. Under the current TSCA PCB rules, the use of used oils containing any concentration of PCBs is prohibited and the disposal of used oil containing 50 ppm or greater PCBs is strictly controlled. When today's listing proposal is promulgated, users and disposers of used oils containing PCBs will be subject to both the TSCA and RCRA regulations until the Agency integrates the PCB rules with the hazardous waste rules. Where both sets of regulations are applicable, EPA will apply the more stringent of the two requirements. The Agency, however, solicits information on whether certain used oils containing PCBs should be excluded from the listing because they do not typically contain other toxic constituents (*e.g. metals*).

Examples of petroleum wastes which are not "used oils" include: crude oil or virgin fuel oil spilled on the land or water; oily sludge in the bottom of crude or fuel oil storage tanks; and wastes from petroleum refining operations such as API separator sludge.

This regulatory definition is drawn partly from the statutory definition of used oil found at section 1004(36) of RCRA. That section defines "use oil" as any oil which has been:

A. Refined from crude oil.

B. Used, and

C. As a result of such use, contaminated by physical or chemical impurities.

The Agency is interpreting the definition of used oil contained in the

statute to include: (1) Used oils which are adulterated subsequent to use as well as those that are contaminated "as a result of such use" (section 1004(36)); (2) synthetic oils, including those derived from coal or shale; and (3) processing residues from the recycling of used oil.¹¹

EPA's broad regulatory definition of used oil is based on a combined interpretation of sections 1004(36) and 3014. The proposed definition incorporates both the specific elements of section 1004(36) as well as the factors necessary to meet the related statutory mandate of section 3014. The specific language and legislative history of section 3014 make clear that Congress passed section 3014 to address the wide range of troublesome and difficult problems associated with used oil recycling activities from generation and collection, through treatment and processing, to final end use. This broad objective is reflected in Congress' comprehensive mandate to EPA to "promulgate regulations—as may be necessary to protect public health and environment from hazards associated with recycled oil." Section 3014(a) (emphasis added). As recycled oil is defined in terms of used oil, it is necessary to define used oil in such a way as to ensure that the Section 3014 regulations do address the many hazards that can normally and reasonably be expected to be associated with the recycling of used oil. To define the term more narrowly would permit a number of regulatory loopholes and create implementation problems that would run counter to Congress' explicit intent "to reduce the uncertainty and the gaps in the regulatory treatment of used oil." (See H.R. Conf. Rep. No. 1133, 98th Cong. 2nd Sess. 113 (1984)).

With respect to oils adulterated subsequent to use, the Agency has concluded, on the basis of extensive sampling and analyses, that used oil typically and frequently contains several contaminants which are found in used oil as a result of intentional or inadvertent mixing *subsequent to use* rather than as a direct result of a particular use. The Agency has found that under existing mismanagement practices, used oil is frequently mixed or blended with other waste liquids which contain toxic contaminants (many of them not yet defined as hazardous under RCRA) either at the generation site or at used oil processing facilities. These contaminants, although not present as a result of actual use, are,

nevertheless, present at levels of regulatory concern in most used oil samples tested. Therefore, they are being listed among the constituents of concern which form the basis for today's proposed listing.

The Agency could list these used oils as hazardous (i.e., those which become contaminated with non-hazardous wastes subsequent to use) and not subject them to the special management standards, but rather to the Subtitle C rules. However, we believe that used oils which contain essentially identical constituents and pose essentially the same risk be regulated similarly. In addressing specifically this issue, the Senate Committee on Environment and Public Works, in its report on used oil stated "Under some circumstances, it may be difficult to determine if a waste-derived fuel should be classified as a used oil fuel or a hazardous waste fuel. For example, used oil contains contaminants, such as lead, that may be present either through use of the oil or through deliberate adulteration. Both hazardous waste fuel and contaminated used oil fuel should be regulated in accordance with these new provisions, as necessary, to protect human and the environment. The Agency, however, has some discretion as to how to classify these types of fuel mixtures." Sen. Rep. No. 284, 98th Cong., 1st Sess., 38 (1983). Therefore, we believe the Agency has discretion to expand the definition of used oil as currently defined in RCRA to include those oils which become contaminated (with non-hazardous wastes) subsequent to use and thus, subject those used oils that are recycled to the special management standards.¹² As stated earlier, we believe that Congress intended the Agency to consider all contaminants typically found in used oil when it directed the Agency to protect the public and the environment from the "hazards associated with recycled oil" (RCRA section 3014).

While section 1004(36) of RCRA appears, on its face, to limit the statutory definition of "used oil" to oil derived from petroleum, we nevertheless are interpreting the definition of used oil more broadly to include synthetic oils derived from shale and coal. EPA believes that in constructing the definition of used oil, Congress did not intend to exclude synthetic oils from control under section 3014, despite the

fact that used oil is defined as being derived from crude oil under RCRA. The Agency's rationale for this position is based on three points. First, synthetic oils are used for the same purposes as petroleum derived oils, are usually mixed and managed in the same manner after use, and present as great a hazard as petroleum-based oils due to the fact that these oils are just as likely to be contaminated from use or be adulterated. To condition a used oil regulation on a preliminary determination of whether a particular used oil has been derived from crude oil or whether it is synthetic in origin or whether and to what extent it has been mixed would seriously complicate the Agency's efforts to regulate recycled oil. We do not believe that this is what Congress intended. Second, such a distinction would serve no practical purpose since mixtures of used oil and synthetic oil would be regulated under the Subtitle C rules or the recycled oil rules in any case as a result of the mixture rule. Finally, excluding these oils from the definition of used oil would necessitate a separate listing of synthetic used oils, resulting in regulation of synthetic used oils that are recycled under the full set of hazardous waste regulations while petroleum-derived oils that are recycled would be regulated under tailored standards issued pursuant to Section 3014. Congress clearly did not intend that used oils which contain essentially identical constituents and pose essentially the same risk be regulated differently.

EPA is also proposing to include in the definition of used oil residues or sludges resulting from the storage or processing of used oils although these processing residues are not specifically mentioned in the statutory definition of used oil. These processing residues would, in any case, be hazardous wastes under the 'derived from' rule contained in § 261.3(c)(2) of the regulations. Under that rule, any waste which is derived from a hazardous waste continues to be a hazardous waste unless and until it has been demonstrated to be non-hazardous. Since used oil will be a listed hazardous waste under today's proposal, residues from the processing of used oil would still be hazardous wastes. Thus, if used oil processing residues were not regulated as used oils when they are recycled, they would be subject to the full set of Subtitle C regulations under the derived-from rule. EPA believes, however, that since these residues are similar to used oil in terms of the hazardous constituents that are present, these residues should be

¹¹ This definition expands upon the regulatory definition of used oil contained in the Phase I burning and blending rule.

¹² As discussed in Section IV.3., when an oil is adulterated with a hazardous waste (i.e., a hazardous spent solvent), the mixture would be fully regulated as a hazardous waste under the general hazardous waste regulations and would not be subject to the special standards for recycled used oil.

regulated under the special management standards for recycled used oil being proposed under section 3014 of RCRA. Such an approach would be environmentally protective and would allow any person who generates or manages used oil or these processing residues to comply with one set of regulations.

2. Re-refined Oil. Re-refined oil is defined in section 1004(39) of RCRA as "used oil from which the physical and chemical contaminants acquired through previous use have been removed through a refining process." Re-refining of used oil to produce a lubricant is the highest form of used oil recycling and, by definition, produces a product-like oil that is virtually free of contamination and essentially the equivalent of virgin oil. Thus, the Agency believes that used oil which is used as a lubricant, once it has been re-refined, no longer meets the definition of a solid waste contained in § 261.2, and is not, therefore, a hazardous waste.¹³ Although re-refined oil is not considered to be a solid and hazardous waste under today's proposed listing, the transportation and storage of used oil prior to the actual re-refining process is still subject to regulation under the proposed section 3014 standards. Thus, while the re-refined oil itself is not a solid waste, until such time as the oil becomes a product, it continues to be recycled oil and subject to regulation under section 3014.

The exclusion of re-refined oil from today's listing is consistent with the recent amendments to the definition of solid waste. See 50 FR at 634, January 4, 1985. Under those amendments, most materials which are reclaimed from solid wastes and that are used beneficially are not solid wastes and, therefore, are not hazardous wastes provided they are not used as a fuel or used to produce a fuel or are not placed on the land for beneficial use.¹⁴ Used oil which is used as a lubricant that has been re-refined is one such example and is, therefore, deemed to have been reclaimed from solid waste and, thus, is not a solid waste within the meaning of Subtitle C of RCRA.

3. Mixtures of Used Oil and Other Materials—a. Existing Mixture Rule.

¹³ Although re-refined oil is not a solid or hazardous waste under this proposal, re-refined oil would continue to be a used oil within the meaning of section 3014 of RCRA.

¹⁴ Materials that are reclaimed from a solid waste can still be a solid and hazardous waste if: (1) The materials are accumulated speculatively, or (2) the materials have been processed minimally or the materials have been partially reclaimed but must be reclaimed further before recovery is complete (see 50 FR 635, January 4, 1985).

Under the existing rule concerning mixtures of hazardous wastes and solid wastes (40 CFR 261.3), when a characteristic or listed hazardous waste is mixed with another solid waste, the entire mixture becomes a hazardous waste subject to 40 CFR Parts 262–265 except in the following circumstances: (1) When a waste that is hazardous solely because it exhibits one of the characteristics in Subpart C of Part 261 is mixed with another waste such that the entire mixture no longer exhibits any of the characteristics; (2) when a waste that is exempted under § 261.5 (i.e., wastes from small quantity generators) is mixed with another (non-hazardous) waste, the resultant waste mixture is generally exempt from regulation; and (3) when a waste that is hazardous because it is listed in Subpart D of Part 261 is mixed with non-hazardous solid waste, the entire mixture is hazardous unless it is exempted from regulation under §§ 260.20 and 260.22.¹⁵

This general policy concerning mixtures has been incorporated into the recycled oil rules (i.e., a mixture of recycled used oil and another hazardous waste will be considered a hazardous waste subject to the full set of the Subtitle C rules). However, the Agency is proposing one major change to the policy described above. In particular, under the general hazardous waste rules, a mixture of small quantities of a hazardous waste and a non-hazardous waste would be conditionally exempt from regulation (i.e., not subject to the hazardous waste rules). Under today's proposal, however, a mixture of used oil and small quantities of another hazardous waste (as defined in § 261.5) will be fully regulated as a hazardous waste and not a used oil. We believe this change in policy is necessary in order to prevent small quantities of hazardous wastes from being illicitly disposed of by being mixed with recycled oil. (See the proposed management standards for a more detailed discussion of the mixture rule as it applies to used oil.)

Under today's proposed listing, used oil will be a listed hazardous waste subject to all applicable requirements under Parts 262–265 when it is disposed. Consequently, mixtures of used oil and other hazardous wastes (including small quantities of hazardous wastes) will be hazardous wastes subject to full regulation under Subtitle C when that mixture is disposed, except as provided in Sections b. and c., below.

¹⁵ The Agency also has exempted certain other mixtures of hazardous and non-hazardous wastes from the mixture rule. See 40 CFR 261.3(a)(2)(iv); see also, November 17, 1981.

(b) Mixtures of Wastewater and Used Oil. EPA is today proposing an amendment to the mixture rule (40 CFR 261.3) in order to avoid regulating certain mixtures as a hazardous waste or a used oil where the Agency believes that such regulation would not be necessary to protect human health and the environment. The Agency is specifically concerned that under today's proposed listing of used oil, otherwise non-hazardous wastewaters contaminated with very small amounts of used oil would be subject to regulation as a hazardous waste under the existing mixture rule.

The wastewater from many industries (e.g., steel manufacturing, railroad yards, etc.) frequently contains small amounts of oil which enters the system from a variety of sources, including drippings from machinery and other processes. The contamination of wastewater with small amounts of oil is virtually impossible to control. EPA believes that such small amounts of oil in wastewater pose no significant hazard when stored, transported, treated, disposed, or reused. Consequently, the regulation of such mixtures as hazardous wastes under RCRA is unwarranted.

Under the existing Subtitle C system, however, such mixtures would nonetheless be considered listed hazardous wastes. The only mechanism presently available to handlers of these mixtures to remove their wastes from regulatory control would be to petition the Agency to exclude (or delist) their waste under the procedures contained in 40 CFR 260.20 and 260.22. Because of the large potential numbers of facilities involved and because the Agency does not consider such mixtures to be hazardous, EPA is proposing a different approach for removing mixtures containing only small amounts of used oil from regulatory control under this listing.¹⁶

Specifically, EPA is proposing to amend the mixture rule contained in 40 CFR 261.3 to provide that a mixture of a non-hazardous wastewater and used oil caused by a *de minimis* loss of lubricating oil, hydraulic or metalworking fluids, or insulating fluids or coolants due to spills or drippings will not be subject to regulation as a used oil (and hence, as a hazardous waste). As noted above, EPA believes that the concentrations of hazardous constituents that may be present in such

¹⁶ The Agency has made previous modifications to the mixture rule when such mixtures were not considered hazardous (see 48 FR 56582, November 17, 1981).

a mixture will be so small as to pose no significant hazard to human health and the environment.

While the Agency is not proposing a specific concentration limit for such used oil in wastewater, EPA requests comment on whether such a limit should be established, and if so, what that level should be. This exemption would apply only to very small amounts of used oil which are lost in normal operations or when small amounts of oil are lost to the wastewater treatment system during draining or washing operations. The exemption for mixtures of used oil and non-hazardous wastewaters would not apply, however, if the used oil is discarded as a result of abnormal manufacturing operations, (e.g., plant shutdowns or operation malfunctions resulting in substantial spills, leaks, or other releases). In addition, EPA is placing two additional conditions on this exemption.

First, this exemption will not affect the mixture rule as it applies to mixtures of hazardous wastes and other wastes. In other words, a mixture of wastewater (containing used oil) and another hazardous waste would still be a hazardous waste subject to full regulation under 40 CFR Parts 262-265, and 270, 271, and 124. This condition is necessary to prevent the illicit disposal of a hazardous waste by mixing it with an exempted mixture.

The second condition applicable to this amendment applies to oil that is recovered from an exempted mixture. Used oil that is recovered is essentially the same as other recycled oil in terms of the contaminants that may be present as well as the management practices which subsequently may be applied. Consequently, EPA believes it is appropriate to regulate oil recovered from mixtures exempted under this proposed amendment. Hence, when recycled, such oil will be subject to regulation under the rules being proposed today for recycled used oil. Used oil that is recovered from wastewaters and which is disposed will be subject to the general hazardous waste rules rather than the recycled oil rules.

c. Oil-Contaminated Industrial Wipers (Oily Rags). EPA is also proposing an amendment to the mixture rule that would exempt from regulatory control industrial wipers that are contaminated with used oil.

Industrial wipers¹⁷ are widely used in a variety of industrial settings to wipe

small amounts of oil or other substances from areas or objects needing cleaning or polishing, including machinery, tools, and other objects. A major use of industrial wipers is also wiping the hands and face of the user. According to information provided by Kimberly-Clark in a petition submitted to EPA, industrial wipers are used at some 540,000 industry sites in the United States.¹⁸ Kimberly-Clark estimates that the total quantity of used oil found in all discarded industrial wipers on a yearly basis would not exceed 2.3% of all used oil.¹⁹

In its petition, Kimberly-Clark argued that industrial wipers do not pose any significant environmental hazards when disposed of as part of the regular, non-hazardous solid waste stream and that regulations of oil-contaminated wipers would not be cost-effective. Specifically, Kimberly-Clark argued that the actual amount of used oil likely to be disposed of at a typical non-hazardous waste landfill or by incineration is insignificant and would likely have a net positive effect in terms of the wipers' ability to absorb additional liquid if placed in a landfill or to combust more completely and provide heat value if incinerated. Kimberly-Clark also argued that requiring users to handle their wipers as hazardous waste would have substantial negative impacts, both economically and from an environmental standpoint.

We have evaluated the petition submitted by Kimberly-Clark and have decided to propose exempting industrial wipers from regulatory control under the mixture rule (i.e., we are proposing to amend the mixture rule to say that a mixture of a used oil and an industrial wiper will not be considered a hazardous waste). However, this exemption would not apply to oily rags which exhibit a characteristic of hazardous waste pursuant to Subpart C of Part 261. It should also be noted that this exemption is not intended to apply to those industrial wipers used to clean up oil spills but only to those wipers used to clean drips or other incidental amounts of oil from machinery or equipment, or the face and hands of the user. EPA generally believes that these wipers (although contaminated with used oil) would contain relatively small

amounts of oil which are generally disposed of as part of the user's regular solid waste stream; and disposable wipers (7.8 billion wipers annually) which are discarded as part of the user's regular solid waste stream.

¹⁸ Exemption of Oil-Contaminated Industrial Wipers from Forthcoming Waste Oil Rules Under RCRA, Kimberly-Clark Corporation, June 15, 1983.

¹⁹ See Kimberly-Clark petition for detailed calculation.

concentrations of the hazardous constituents so as to pose no significant hazard to human health and the environment.

EPA is also concerned that regulating industrial wipers contaminated with used oil as a hazardous waste will seriously impact the Agency's implementation of the hazardous waste program by subjecting several hundred thousand otherwise unregulated establishments to the hazardous waste regulations. EPA does not believe that it could effectively extend regulation to this group of hazardous waste generators at this time.

The Agency, however, still has a number of concerns with respect to this exemption. In particular, EPA is concerned that, based on data submitted by Kimberly-Clark, a significant aggregate amount of used oil (13.2 million gallons per year) will be disposed of in the environment via industrial wipers. Second, the Agency believes that establishing a concentration limit for used oil in the wiper may be desirable (or necessary) to ensure that significant quantities of used oil and its hazardous constituents are not disposed of intentionally through an exempted mixture. However, the Agency has not yet been able to determine an appropriate concentration level and specifically requests public comment as to what level, if any, would be appropriate.

EPA is also requesting public comment on the issue of exempting oil-contaminated industrial wipers, in general, from regulatory control as hazardous wastes, particularly with respect to possible adverse impacts from such an exemption.

C. Delisting Procedures for Used Oil

The Agency's procedures for excluding wastes at a particular site from the hazardous waste regulations are contained in 40 CFR 260.20 and 260.22. These rules allow any person to demonstrate that a specific waste from a particular generating facility should be "delisted" (i.e. not regulated as a hazardous waste) on the basis that their waste is fundamentally different from the waste that was listed in Subpart D of Part 261. In the past, petitioners have been required to demonstrate that their waste does not meet any of the criteria for listing contained in 40 CFR 261.11 (a)(1), (a)(2), or (a)(3) which were relevant to the Administrator's decision to list that waste in the first place.

However, section 222(a) of the HSWA modifies the delisting procedures to require the Administrator to consider - factors (including additional

¹⁷ The term industrial wipers includes: Shop towels (2.9 billion wipers annually) which are cloth wipers that are generally not discarded but are washed and reused; rags (2.9+ billion wipers

constituents) other than those for which the waste was listed, if the Administrator has a reasonable basis to believe that such additional factors could cause the waste to be a hazardous waste. In addition, the amendments specifically require the Agency to provide notice and an opportunity for public comment before granting a delisting petition. Under today's listing proposal, generators or other handlers of used oil who wish to petition the Agency to have their specific used oil delisted must follow the same delisting procedures as for any other hazardous waste (*i.e.*, they must submit sufficient data so that the Agency can evaluate their used oil to determine its hazardousness with respect to any toxic constituent that may reasonably be present in the waste).

The Agency recognizes that significant numbers of used oil handlers may wish to petition the Agency for a delisting, especially since non-hazardous used oil will not be subject to regulatory control. Some generators may well, due to their generation and handling procedures, generate relatively clean used oils. While the Agency has sought to exclude from the listing or exempt from regulation under section 3014 those used oils which do not pose a hazard to the environment, the Agency is somewhat concerned that a large number of petitions could unnecessarily overtax the Agency's delisting resources.

EPA considered an approach that would involve setting concentration limits for specific constituents of concern. Used oil that did not exceed these concentration limits would be exempt from regulation as a hazardous waste. However, this approach poses several practical problems concerning the appropriate concentration limits that should be set for which constituents (*i.e.*, used oil can contain any one of the toxic contaminants listed in Appendix VIII of Part 261) and problems relating to implementation. Therefore, the Agency has concluded that such an approach is not feasible at this time and that any person who wishes to delist their used oil will need to submit a petition pursuant to 40 CFR 260.20 and 260.22.²⁰

²⁰ At a minimum, EPA would expect the petitioner to demonstrate that the used oil: (1) Meets the Phase I fuel specifications (50 FR 1716, January 11, 1985), and (2) does not exhibit any of the hazardous waste characteristics. In addition, the petitioner must demonstrate that the used oil is not hazardous for the reason it was listed and must submit sufficient information for the Administrator to determine whether the used oil is hazardous for any other reasons.

The Agency requests public comment on the issue of delisting nonhazardous used oils and is particularly interested in any particular used oils that should be specifically excluded from the listing of used oil as a hazardous waste.

V. Basis for Listing Used Oil as a Hazardous Waste

A. Criteria for Listing

EPA may list as waste as hazardous if it meets any of the criteria for listing contained in 40 CFR 261.11. Among others, § 261.11(a)(3) provides that the Administrator may list a waste as hazardous if it contains any of the toxic constituents listed in Appendix VIII, unless, after considering certain factors, the Administrator determines that the waste will not pose a substantial present or potential hazard to human health or the environment when mismanaged. The factors that can mitigate such a listing are: (i) The nature of the toxicity presented by the constituent, (ii) the concentration of the constituent in the waste, (iii) its potential to migrate or persist in the environment, (iv) the plausible types of improper management to which the waste could be subjected, (v) the quantities of waste generated and the nature and severity of human health and environmental damage that has occurred, and (vi) any other factors that may be appropriate.

The Administrator has determined that used oil contains highly toxic contaminants in significant quantities, that these contaminants are mobile and persistent in the environment, and that used oil is generated in large quantities. Thus, these wastes may pose a substantial present or potential threat to human health or the environment when improperly transported, treated, stored, recycled, disposed, or otherwise managed.²¹

B. Summary of Used Oil Universe

Based on 1982 automotive and industrial new oil sales of 1,244 and 1,171 million gallons, respectively, it is estimated that 746 million gallons of automotive used oil and 402 million

²¹ Testing of used oil has shown that nearly 20 percent of the samples have flash points below 140° F, with some samples having flash points as low as 72° F. These low flash points generally result from contamination with gasoline, which has an initial boiling point below 100° F. In addition to contamination with gasoline, used oil also contains many other highly flammable light aliphatics and aromatics. Thus, used oil may, at times, exhibit the characteristic of ignitability. However, since only 20 percent of the samples tested exhibited the ignitability characteristic, we are not including it as a basis for listing. Nevertheless, each generator is responsible for determining if his waste exhibits any of the hazardous waste characteristics.

gallons of industrial used oil are generated each year. Approximately 57 percent of the total generated, or about 660 million gallons, are currently managed by collectors, processors, refiners, and end-users and will be brought under regulatory control under the special management standards. The remaining 43 percent, or 488 million gallons, result from do-it-yourself oil changers, agricultural and construction machinery operators, and small generators of industrial oils who often dispose of their oils off-site rather than accumulate them or take them to a point of accumulation.

C. Toxic Constituents of Concern

As discussed above, the primary basis for listing used oil as a hazardous waste under 40 CFR 261.11 concerns the presence of certain toxic constituents contained in used oil. Used oil typically contains a number of toxicants listed in Appendix VIII in concentrations well above those necessary to cause substantial harm. These constituents, including lead, trichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, naphthalene, and toluene, have been measured in used oils in significant concentrations. Based on the Agency's survey of used oil samples, the following contaminant levels were reported at the statistical 90th percentile²² for the constituents of concern.²³ Lead was reported at 1200 ppm, naphthalene at 990 ppm, tetrachloroethylene at 1300 ppm, 1,1,1-trichloroethane at 3100 ppm, trichloroethylene was reported at 1000 ppm, and toluene at 5000 ppm. The constituents are, therefore, present in used oil at levels ranging from 10² to 10⁷ higher than any health-based standard (*i.e.*, Ambient Water Quality Criteria or Drinking Water Standards). See Table 1, below. Consequently, only a small percentage of the toxicants would need to migrate from the waste and escape into the environment at levels above the reported health-based standard to pose a substantial hazard to human health and the environment.

These toxicants are known to have carcinogenic, mutagenic, teratogenic, or other chronic or acutely toxic properties. In particular, tetrachloroethylene has been identified by the Agency's

²² At the statistical 90th percentile, 90% of all of the samples will contain that constituent at that value or lower. See Background Document for Used Oils for mean, median and 75th percentile concentrations of these constituents in used oil samples analyzed.

²³ Franklin Associates, Ltd., *Composition and Management of Used Oils Generated in the United States*, September 1984.

Carcinogen Assessment Group (CAG) as a possible human carcinogen.^{24, 25} It is a mutagen in bacterial assays; it is also chronically toxic to dogs, causing kidney and liver damage, and to humans, causing impaired liver function. In mice and rats, tetrachloroethylene has caused toxic nephropathy. The Agency's CAG has also identified trichloroethylene as a potential human carcinogen. In addition, trichloroethylene causes some liver and kidney damage. 1,1,1-Trichloroethane has been shown, in animal studies, to produce adverse effects in the central nervous system, pulmonary system, heart, kidney, and liver. Results of a National Cancer Institute (NCI) carcinogenesis bioassay also have indicated that oral administration of 1,1,1-trichloroethane produced a variety of neoplasms; however, re-testing of this compound is in progress since a high incidence of premature deaths was observed in this initial study. Toluene is known to cause central nervous system dysfunction and has been linked to reproductive effects in humans. Chronic occupational exposures to toluene also have resulted in neurologic effects, such as impaired performance on tests for intellectual and psychomotor ability and muscular function.

TABLE 1.—USED OIL CONTAMINANT CONCENTRATIONS AS COMPARED TO HEALTH BASED CRITERIA

Constituent	Concentration in used oil (90th percentile, ppm)	AWOCL (ppm)	DWS ¹ (Long-term SNARL) (ppm)	Solubility (ppm)
Lead	1,200	.06	.06	
Tetrachloroethylene	1,200	.008	.02	180
Toluene	5,000	14.3	.243	536
1,1,1-Trichloroethane	3,100	18.4	1	720
Trichloroethylene	1,000	.027	.075	1,000
Naphthalene	990			

RATIO OF CONCENTRATION TO CRITERIA

Constituent	Concentration/AWOCL	Concentration/DWS	Solubility/AWOCL	Solubility/DWS
Lead	34,909	34,900		
Tetrachloroethylene	182,500	65,000	18,800	7,500
Toluene	350	14,600	37	1,580

²⁴ U.S. EPA 1985, Health Assessment Document for tetrachloroethylene (perchloroethylene). EPA 600/8-82-003F.

²⁵ The Agency is presently completing evaluation of two additional positive studies by the National Toxicology Program (NTP) performed by inhalation exposure of rats and mice. This re-evaluation is expected to result in the classification of perchloroethylene as a "B-2" carcinogen (i.e., a probable human carcinogen). See 49 FR 46294.

RATIO OF CONCENTRATION TO CRITERIA—Continued

Constituent	Concentration/AWOCL	Concentration/DWS	Solubility/AWOCL	Solubility/DWS
U.I. Trichloroethane	170	3,100	40	720
Trichloroethylene	37,000	13,300	37,000	13,300
Naphthalene				

Sources:
¹ Background Document for Used Oil.
² U.S. EPA, 1980, Health and Environmental Effects Profile, RCRA Subtitle C Background Document, Appendix A, Office of Solid Waste, Washington, D.C.
³ No health-based standard has yet been developed for naphthalene.

Naphthalene is a systemic poison which bioaccumulates in the skin, liver, brain, blood, muscle, and heart. In particular, chronic exposure to naphthalene produces cataracts, hemolytic anemia, and kidney disease in humans. Finally, lead is a systemic toxicant, causing renal damage, cerebrovascular disease, heart failure, electrocardiographic abnormalities, impaired liver function, impaired thyroid function, intestinal colic, and miscarriages and still births. [For additional information on the toxicity of the hazardous constituents see the Health and Environmental Effects Profile (HEEPs), available from the public docket at the address given above.]

In addition, it is important to note that used oil may contain significant aggregate concentrations of one or more other toxic constituents identified by the Agency. Table 2 details additional constituents which have been found in used oils.

TABLE 2.—TOXIC CONSTITUENTS¹ FOUND IN USED OIL MISMANAGEMENT INCIDENTS

arsenic ²	naphthalene.
barium	nickel ³ .
benzene ³	nitrobenzene.
beryllium ³	phenol.
cadmium ³	PCB's (polychlorinated biphenyls) ³
carbon	polynuclear aromatic hydrocarbons (see text).
tetrachloride ³	selenium.
chromium total	2,3,7,8-tetrachlorodibenzo-p-dioxin ³ .
cyanide	tetrachloroethylene ³ .
dibromodichloromethane	toluene.
fluoranthene	1,1,1-trichloroethane.
lead	trichloroethylene.
mercury	

¹ The majority of these substances are listed in Appendix III, Part 261.

² Indicates compounds that the U.S. EPA's Carcinogen Assessment Group (CAG) has determined to have evidence of carcinogenicity. The weight of evidence for carcinogenicity varies. For some of these chemicals there is human evidence (epidemiological data) while for others only experimental animal evidence is available. Source: "The Carcinogen Assessment Group's List of Carcinogens," July 14, 1980, Classification.

³ PCB's: The manufacture, processing, distribution in commerce, and use of PCB's is prohibited by TSCA § 5(s) unless specifically authorized by PCB regulations under 40 CFR Part 761. PCB's have been demonstrated to have developmental and reproductive effects, and oncogenic potential in animal studies. EPA has found no evidence to suggest that PCB's would not have similar effects and oncogenic potential in humans.

Another factor considered by the Agency as a basis for listing used oil as hazardous concerns the fact that they typically and frequently contain toxic heavy metals which present a particular health hazard when burned. Fuel specifications for the burning of used oil have been defined for arsenic, cadmium, chromium, and lead.²⁶ The rationale for selecting these constituents is discussed in the Phase I burning and blending proposal (50 FR 1684-1723). All of these constituents have been identified in significant concentrations in used oil samples as is evident from the contaminant levels reported in the Agency's survey of approximately a thousand used oil samples. This survey revealed the following levels at the statistical 90th percentile for the following constituents of concern: Arsenic at 19 ppm; cadmium at 10 ppm; chromium at 30 ppm; and lead at 1200 ppm. These levels have been shown to pose a potential substantial hazard to human health and the environment when burned in an incinerator or boiler. (See Phase I burning and blending proposal for more detailed discussion.)

CAG has identified both arsenic and cadmium as having sufficient evidence of carcinogenicity to categorize them as potential human carcinogens. Hexavalent chromium also demonstrates evidence of carcinogenic potential. Arsenic, cadmium, and hexavalent chromium also demonstrate mutagenic effects and arsenic and cadmium further show teratogenic activity.²⁷

D. Waste Constituent Mobility: Environmental Fate and Transport

As stated in 40 CFR 261.11, the Administrator will consider the mobility potential, persistence, and potential to bioaccumulate of toxic constituents in a waste in determining whether to list a waste as hazardous.

1. *Mobility Potential.* The water solubility of a given toxic constituent is indicative of its mobility potential (i.e., the likelihood that it will be released from a management site and become dissolved in a water resource of concern). Many of the used oil constituents of concern are highly water soluble and thus characterized by a high mobility potential. Their solubilities are many orders of magnitude greater than their respective Ambient Water Quality Criteria levels and designated Drinking

²⁶ The Phase I burning and blending proposal also proposed specifications for total chlorine and flashpoint.

²⁷ See Subtitle C—Identification and Listing Background Document, Appendix A—Health and Environmental Effects Profiles; October 30, 1980.

Water Standards. See Table 1. If improperly managed, these toxicants can be expected to migrate from storage or disposal facilities and to become dissolved in drinking water resources at levels exceeding the corresponding health standards.

For example, trichloroethylene is soluble in water at concentrations which exceed the long-term SNARL (Suggested No Adverse Response Level) by a factor of approximately 13,000. If improperly managed, leachate from wastes containing trichloroethylene could migrate to water supplies resulting in concentration levels far in excess of the corresponding long-term SNARL. Tetrachloroethylene is similarly very soluble in water at concentrations exceeding the long-term SNARL by a factor of 7,500. Furthermore, since the used oil itself is a liquid, the potential for these toxicants to migrate from the waste is enhanced. Therefore, these toxicants are likely to escape from the waste and migrate into ground water to present a substantial hazard to human health and the environment.

2. Persistence. Many of these constituents are highly persistent in the environment (e.g., 1,1,1-trichloroethane has a half-life of 5-8 months in fresh water and 39 months in sea water and tetrachloroethylene has a residence time of several years or decades in deep soils and ground water). Metals, such as arsenic, cadmium, chromium, and lead will persist in the environment indefinitely.²²

The Agency considers a material to be persistent if it persists in the environment long enough to be detected since it may also result in exposure to humans in the same period of time. Most of these constituents have been repeatedly detected in ground and surface water surveys conducted by the Agency which provides a further indication of their environmental persistence. For example, in one Agency survey of 969 water systems, 1.4 percent of the tapwater samples exceeded the 50 ppb standard for lead. Similarly, naphthalene has been detected in natural waters and in drinking water supplies.

In nationwide surveys of organic chemicals in the drinking water of representative U.S. communities, toluene was found to contaminate one raw and eleven finished water supplies out of the 133 water supplies surveyed. Toluene has also been detected in sea water and fish obtained near petroleum and petrochemical plants in Japan.

Four Federal surveys used to estimate levels of 1,1,1-trichloroethane in public drinking water supplies in the U.S. reported that 3 percent of the ground-water systems are expected to have between 0.5-5 ppb of 1,1,1-trichloroethane, and that most surface water systems have detectable levels of 1,1,1-trichloroethane. Thus, many of these constituents, including used oil itself, have been found to migrate and present a hazard to human health and the environment at Superfund sites.

The toxicologic properties, environmental mobility, and persistence of these toxicants are described in the corresponding Health and Environmental Effects Profiles. We note further, however, that a consideration of the toxicity of individual waste constituents is likely to understate waste toxicity. This understatement relates to the fact that used oil is a complex mixture of many hazardous constituents. Aggregate toxic effects, whether additive or synergistic, are likely manifestations of exposure.

3. Bioaccumulation. Another factor which the Administrator considers in the decision to list a waste as hazardous concerns "the degree to which the constituent or any toxic degradation product of the constituent bioaccumulates in ecosystems." Bioaccumulation is the tendency of a substance to become concentrated in living tissue. Many of the constituents in used oil bioaccumulate in the tissues of living organisms. Naphthalene, for example, can accumulate in living tissues at concentrations up to 188 times those in the contaminated water. Toluene can accumulate in living tissues at concentrations 78 times the concentration in the water. 1,1,1-Trichloroethane, tetrachloroethylene, and trichloroethylene also bioaccumulate at 56 times, 43 times, and 15 times their respective concentrations in water. Thus, only a small fraction of the toxicants present in these wastes need migrate and reach environmental receptors to pose the potential for substantial harm to human health and the environment.

E. Waste Mismanagement Potential

Used oils are capable of causing substantial harm to human health or the environment, if managed improperly. Typical improper management practices include disposal in unlined or inadequately lined land disposal facilities leading to contamination of ground water, surface water, and soil, and improper burning, resulting in exposure to unburned toxicants in the wastes as well as products of incomplete combustion.

Appendix A of the used oil background document provides a summary of approximately 80 major mismanagement incidents and the cost implications of cleanup operations (\$10,000 to \$5,150,000 per site). The mismanagement issue is not confined to on-site management of used oil, as evidenced by the fact that seventy (70) of these incidents occurred off the generation site. The media affected include surface water (35 sites), ground water (24 sites), drinking water (17 sites), air (8 sites), and soil (25 sites).

Treatment, storage, and disposal of used oils in tank and container storage facilities (25 sites), surface impoundments (38 sites), and other improper disposal facilities (35 sites), burning operations (7 sites), and use of waste oil as a dust suppressant (3 sites) have resulted in the pollution of ground or surface water with lead, chlorinated organics, or aromatic organics from these wastes.

In summary, the Agency has determined that used oil typically contains toxic constituents at concentrations that are of concern, that these constituents are mobile, persistent, and bioaccumulative, and capable of migration in hazardous concentrations, and, therefore, that these wastes are capable of causing (indeed, repeatedly have caused) substantial harm if mismanaged. Consequently, the Agency is proposing to add used oil to the lists of hazardous wastes.

VI. CERCLA and Clean Water Act Impacts: Proposal to Adjust Used Oil Reportable Quantity of 100 Pounds

Today's proposed listing of used oil as a hazardous waste will, upon final promulgation, also result in its classification as a hazardous substance under Section 101(14) of CERCLA. Section 103 of CERCLA requires that persons in charge of vessels or facilities from which hazardous substances have been released in quantities that are equal to or greater than the reportable quantity (RQ) established under CERCLA section 102 immediately notify the National Response Center (NRC) of the release.

Under section 102 of CERCLA, used oil will be automatically assigned an RQ of one pound (after it has been listed as a hazardous waste) until EPA adjusts the statutory RQ. Thus, until adjusted by EPA regulations, persons releasing one pound or more of used oil must notify the NRC. EPA is today proposing to adjust the statutory one pound RQ for used oil to 100 pounds based on the application of its RQ adjustment

²² See SPA report entitled, "Water-related Environmental Fate of 129 Priority Pollutants," January, 1979, EPA-440/4-79029a).

methodology. See 50 FR 13458 (April 4, 1985).

The 100 pound RQ proposed today for used oil is based upon the toxicity of its constituents and its ignitability. As a hazardous waste, used oil is a mixture of hazardous substances for CERCLA purposes, and its RQ is based upon the RQs established for each of its hazardous constituents. Because the exact composition of a hazardous waste is usually unknown, the RQ of the waste is normally based upon the lowest RQ established for any of its constituents. However, the composition of used oil is sufficiently well characterized to enable an RQ adjustment to be based upon calculations at the 90th percentile concentrations of each hazardous constituents.

The substances with the lowest RQs at the 90th percentile concentration are lead and tetrachloroethylene and, therefore, the RQ of used oil is based on the RQs of these substances. Because the RQs of both of these substances at that concentration are between 100 and 1000 pounds, the applicable RQ for used oil has been set at 100 pounds. The ignitability of used oil also results in an RQ of 100 pounds. (See Background Document for a more detailed explanation of our basis for setting an RQ of 100 pounds.)

The CERCLA RQ proposed today applies to releases of used oil to all environmental media, including navigable waters, the contiguous zone, and ocean waters. EPA has rejected a media specific RQ approach to avoid confusion, arbitrariness, and inequity in release notification. See 50 FR 13466-13467 (April 4, 1985). However, under the Clean Water Act, the oil sheen has been the RQ for discharges of oil to navigable waters and the contiguous zone since 1970.²⁸ The sheen test

provides a non-quantitative reporting trigger and is not supplanted by today's proposed CERCLA rulemaking.²⁹

Unlike hazardous substances under the Clean Water Act, the RQ for oil established under that Act is not automatically altered to correspond to the adjusted CERCLA RQ. See 50 FR 13473 (April 4, 1985). Furthermore, there are important reasons for retaining the oil sheen RQ. The sheen test is generally a more sensitive reporting trigger than the proposed RQ because a sheen may be created by a quantity of used oil less than 100 pounds. The sheen has been a useful trigger because it is easily recognized and does not require the sometimes difficult determination of the volume of spilled oil. Those who implement the current regulation have found it to be successful over the past 15 years in creating an effective early-warning system for oil spills and in improving oil handling techniques. Most importantly, however, it has been supported by scientific studies which have concluded that repeated and low level releases of oil may cause harm to aquatic environments. Moreover, these effects may not be adequately measured by the aquatic toxicity tests used under CERCLA and the Clean Water Act to evaluate individual constituents of hazardous wastes.

Thus, the CERCLA 100 pound RQ for used oil will apply to all environmental media, including surface waters. A release of used oil equal to or greater than 100 pounds must be reported to the NRC under CERCLA whether or not an oil sheen is produced or the waters affected are inside the contiguous zone. If the release of 100 pounds or more is into navigable waters and the contiguous zone, the release is also subject to the reporting requirement of the Clean Water Act but one report to the NRC will satisfy the notice requirements of both statutes. Releases of used oil in amounts less than 100 pounds to navigable waters and the contiguous zone will be subject to reporting requirements under the sheen rule of the Clean Water Act. Such releases must also be reported to the NRC, as provided under that Act.

VII. State Authorization Impacts

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA

program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization.) Following authorization EPA retains enforcement authority under sections 3008, 7003, and 3013 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA) amending RCRA, a State with final authorization administered its hazardous waste program entirely in lieu of the Federal program. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State which the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obligated to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under newly enacted section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by the HSWA take effect in authorized State at the same time that they take effect in nonauthorized States. EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is granted authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

Today's rule would be added to Table 1 in § 271.1(j) which identifies the Federal program requirements that are promulgated pursuant to HSWA. The Agency believes that it is extremely important to clearly specify which EPA regulations implement HSWA since these requirements are immediately effective in authorized States. States may apply for either interim or final authorization for the HSWA provisions identified in Table 1 as discussed in the following section of this preamble.

B. Effect on State Authorizations

Today's announcement proposes standards that would be effective in all States since the requirements satisfy EPA obligations under the Hazardous and Solid Waste Amendments of 1984. Thus, EPA will implement the standards in nonauthorized States and in authorized States until they revise their programs to adopt these rules and the revision is approved by EPA.

²⁸ Known as the "sheen rule," the Clean Water Act (Section 311(b)) prohibition and reporting requirement for discharges that "may be harmful" actually includes discharges of oil that:

(a) Violate applicable water quality standards, or

(b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

Pursuant to the 1977 amendments to the Clean Water Act, EPA has proposed to extend the sheen test beyond the contiguous zone to discharges into ocean waters "in connection with activities under the Outer Continental Shelf Lands Act or the Deep Water Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act)." (Section 33 U.S.C. 1321 (b) and (c)). 50 FR 9776 (March 11, 1985).

²⁹ Attention should also be given to the reporting requirements prescribed under The Act to Prevent

Pollution from Ships, 33 U.S.C. 1901-1911. Those requirements and their applicability are set forth in 33 CFR 151.15 and 151.03, respectively. These requirements would not be affected by today's proposal.

A State may apply to receive either interim or final authorization under section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State program revisions under section 3006(b) are described in 40 CFR 271.21. See 49 FR 21678 (May 22, 1984). The same procedures should be followed for section 3006(g)(2).

Applying § 271.21(e)(2), States that have final authorization must revise their programs within a year of promulgation of EPA's regulations if only regulatory changes are necessary, or within two years of promulgation if statutory changes are necessary. These deadlines can be extended in exceptional cases (40 CFR 271.21(e)(3)).

States with authorized RCRA programs may have a listing similar to that included in today's rule. These State regulations have not been assessed against the Federal regulations being proposed today to determine whether they meet the tests for authorization. Thus, a State is not authorized to implement this listing in lieu of EPA until the State program revision is approved. As a result, the listing proposed in today's rule will apply in all States, including States with an existing listing similar to that in today's rule. States with an existing listing may continue to administer and enforce their standards as a matter of State law. In implementing the Federal program, EPA will work with States under cooperative agreements to minimize duplication of efforts.

States that submit official applications for final authorization less than 12 months after promulgation of EPA's regulations may be approved without including standards equivalent to those promulgated. However, once authorized, a State must revise its program to include standards substantially equivalent or equivalent to EPA's within the time periods discussed above.

VIII. Request for Comments

The Agency seeks public comment on all of the issues discussed in this notice concerning the listing of used oil as a hazardous waste. The Agency is particularly interested in comments on the proposed amendments to § 261.3 (i.e. the exemptions for wastewaters contaminated with small amounts of oil and for industrial wipers) and on various approaches which may provide practical relief to used oil recyclers that handle used oils which are low in contamination.

Comments concerning the extent of regulation that should be imposed on

various used oil recycling practices should, however, be addressed under the section 3014 proposal.

IX. Executive Order 12291

Under Executive Order 12291, EPA must determine whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. The regulatory impact of this proposal, taken together with the recycled oil rules, is major and is addressed in the proposed management standards for recycled used oil, appearing elsewhere in today's Federal Register.

X. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, whenever an agency is required to publish a general notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the impact of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). The impact of this rule on small entities is addressed in the proposed hazardous waste management standards for used oil, appearing elsewhere in today's Federal Register.

XI. Paperwork Reduction Act

The reporting or recordkeeping (information) provisions in this rule will be submitted for approval to the Office of Management and Budget (OMB) under section 3504(b) of the Paperwork Reduction Act of 1980, U.S.C. 3501 *et seq.* Any final rule will explain how its reporting or recordkeeping provisions respond to any OMB or public comments.

XII. List of Subjects

40 CFR Part 260

Administrative practice and procedure, confidential business information, hazardous waste

40 CFR Part 261

Hazardous waste, Recycling

40 CFR Part 271

Hazardous materials, Reporting and recordkeeping requirements, Waste treatment and disposal, Water pollution control, Water supply, Intergovernmental relations, Penalties, Confidential business information.

40 CFR Part 302

Air pollution control, Chemicals, Hazardous materials, Hazardous materials transportation, Hazardous substances, Intergovernmental relations, Natural resources, Nuclear materials,

Pesticides and pests, Radioactive materials, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control.

Dated: November 8, 1985.

Lee M. Thomas,
Administrator.

For the reasons set out in the preamble, it is proposed to amend Title 40 of the Code of Federal Regulations as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM—GENERAL

1. The authority citation for Part 260 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001 through 3007, 3010, 3014, 3015, 3017, 3018, 3019, and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6921 through 6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974].

§ 260.10 [Amended]

2. Section 260.10 is amended by adding a new definition for used oil to appear alphabetically:

"Used Oil" is petroleum-derived or synthetic oil including, but not limited to, oil which is used as a: i) Lubricant (engine, turbine, or gear); ii) Hydraulic fluid (including transmission fluid); iii) Metalworking fluid (including cutting, grinding, machining, rolling, stamping, quenching, and coating oils); or iv) Insulating fluid or coolant and which is contaminated through use or subsequent management.

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

3. The authority citation for Part 261 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001, and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6921, and 6922].

4. Section 261.3 is amended by revising the introductory text of paragraph (a)(2)(iv), by adding a new paragraph (a)(2)(iv)(F); and by adding a new paragraph (e), to read as follows:

§ 261.3 Definition of hazardous waste

(a) * * *

(2) * * *

(iv) Except as provided in paragraph (e) of this section, it is a mixture of solid waste and one or more hazardous wastes listed in Subpart D and has not

been excluded from this paragraph under §§ 260.20 and 260.22 of this Chapter; however, the following mixtures of solid wastes and hazardous wastes listed in Subpart D are not hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(F) Used oil caused by a de minimis loss of lubricating oil, hydraulic oil, metalworking fluids, or insulating fluid or coolant. For purposes of this paragraph, "de minimis" losses include small spills, leaks, or drippings from pumps, machinery, pipes, and other similar equipment during normal operations or when small amounts of oil are lost to the wastewater treatment system during washing or draining operations. This exception will not apply if the used oil is discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills, or other releases or to used oil recovered from wastewater.

(e) The following mixture of solid waste and hazardous wastes listed in Subpart D are not hazardous wastes except by application of paragraph (a)(2)(i):

(1) Industrial wipers contaminated

with small amounts of used oil. The term industrial wipers includes shop towels, rags, and disposable wipers.

(2) [Reserved]

5. In § 261.31, add the following waste in numerical order:

§ 261.31 Hazardous waste from non-specific sources.

Industry and EPA hazardous waste No.	Hazardous waste	Haz-ard code
Generic:		
F030	Used oil, including automotive, hydraulic, coolant, insulating and metalworking oils.	(T)

6. Add the following entry in numerical order to Appendix VII of Part 261:

Appendix VII—Basis for Listing Hazardous Waste

EPA hazardous waste No.	Hazardous constituents for which listed
F030	Lead, arsenic, cadmium, chromium, 1,1,1-trichloroethane, trichloroethylene, tetrachloroethylene, toluene, naphthalene.

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

7. The authority citation for Part 271 continues to read as follows:

Authority: Sec. 1006, 2002(a), and 3006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), and 6926).

§ 271.1 [Amended]

8. § 271.1(f) is amended by adding the following entry to Table 1 in chronological order by date of publication:

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Date of publication in the Federal Register	Title of Regulation
(Insert date of publication of the final rule).	Listing of Used Oil

PART 302—DESIGNATION, REPORTABLE QUANTITIES, AND NOTIFICATION

9. The Authority citation for Part 302 continues to read as follows:

Authority: Sec. 102 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9602; Sections 311 and 501(a) of the Federal Water Pollution Control Act, 33 U.S.C. 1321 and 1361.

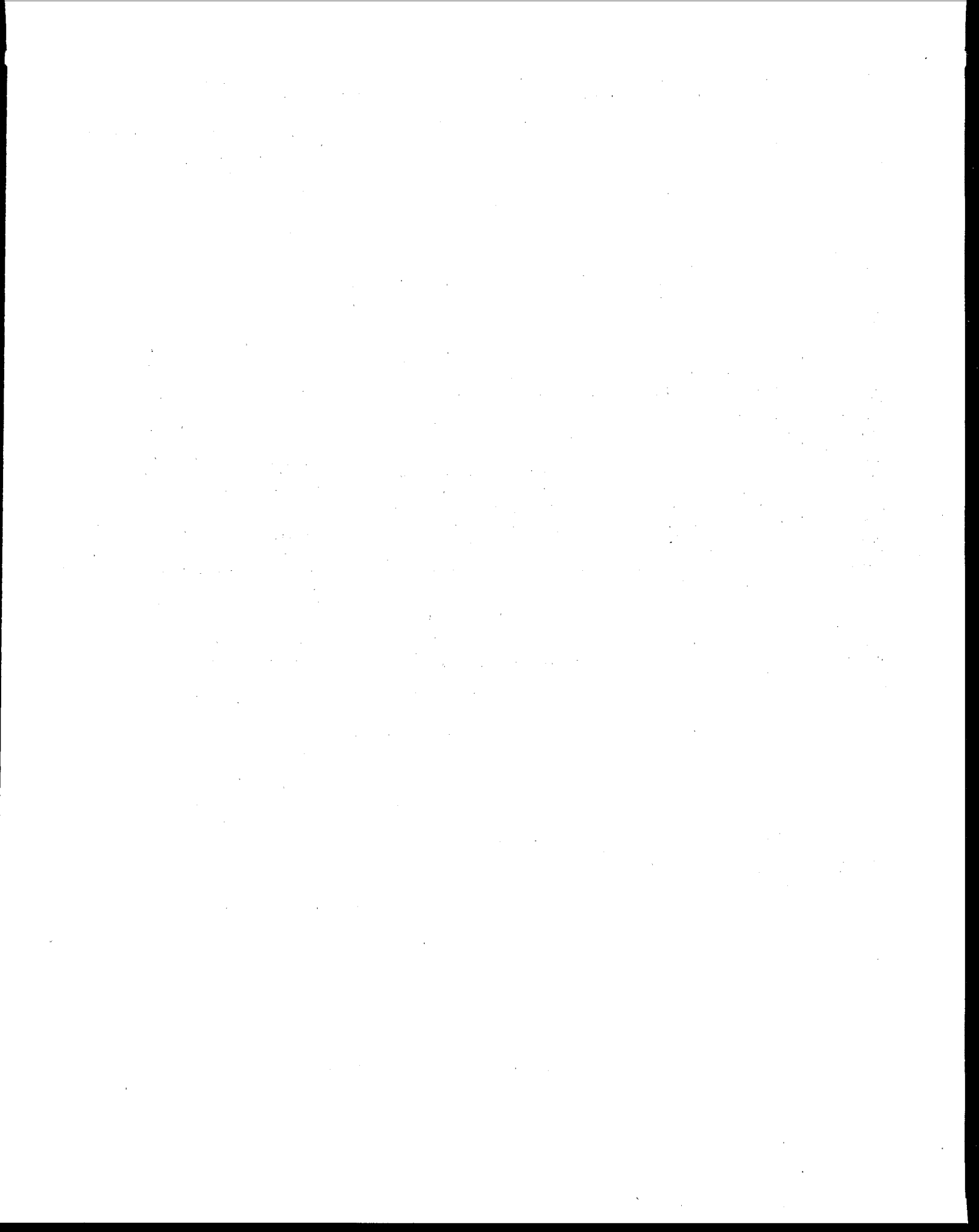
§ 302.4 [Amended]

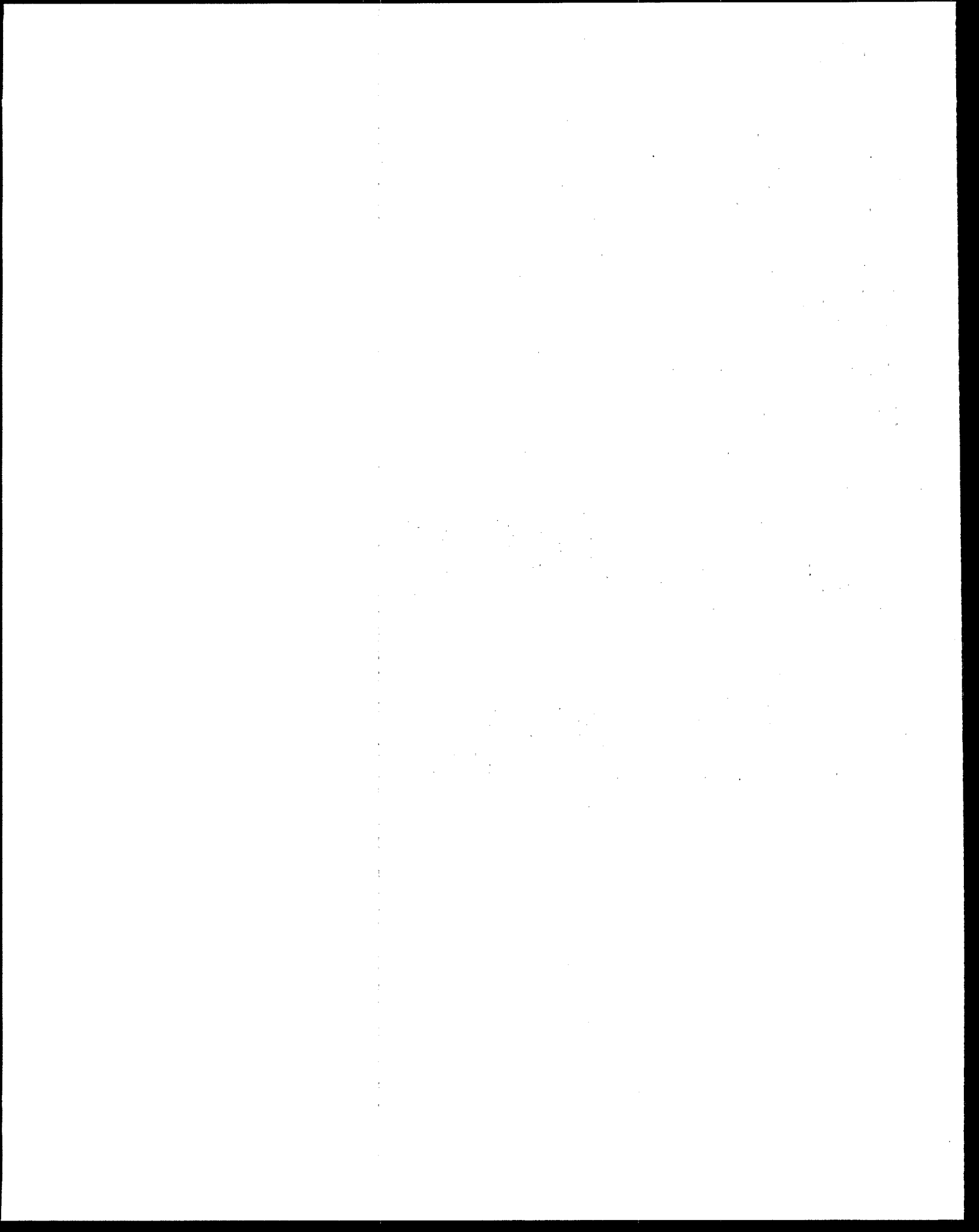
10. It is proposed to amend 40 CFR § 302.4 by amending Table 302.4 by adding the following entry in numerical order, as follows:

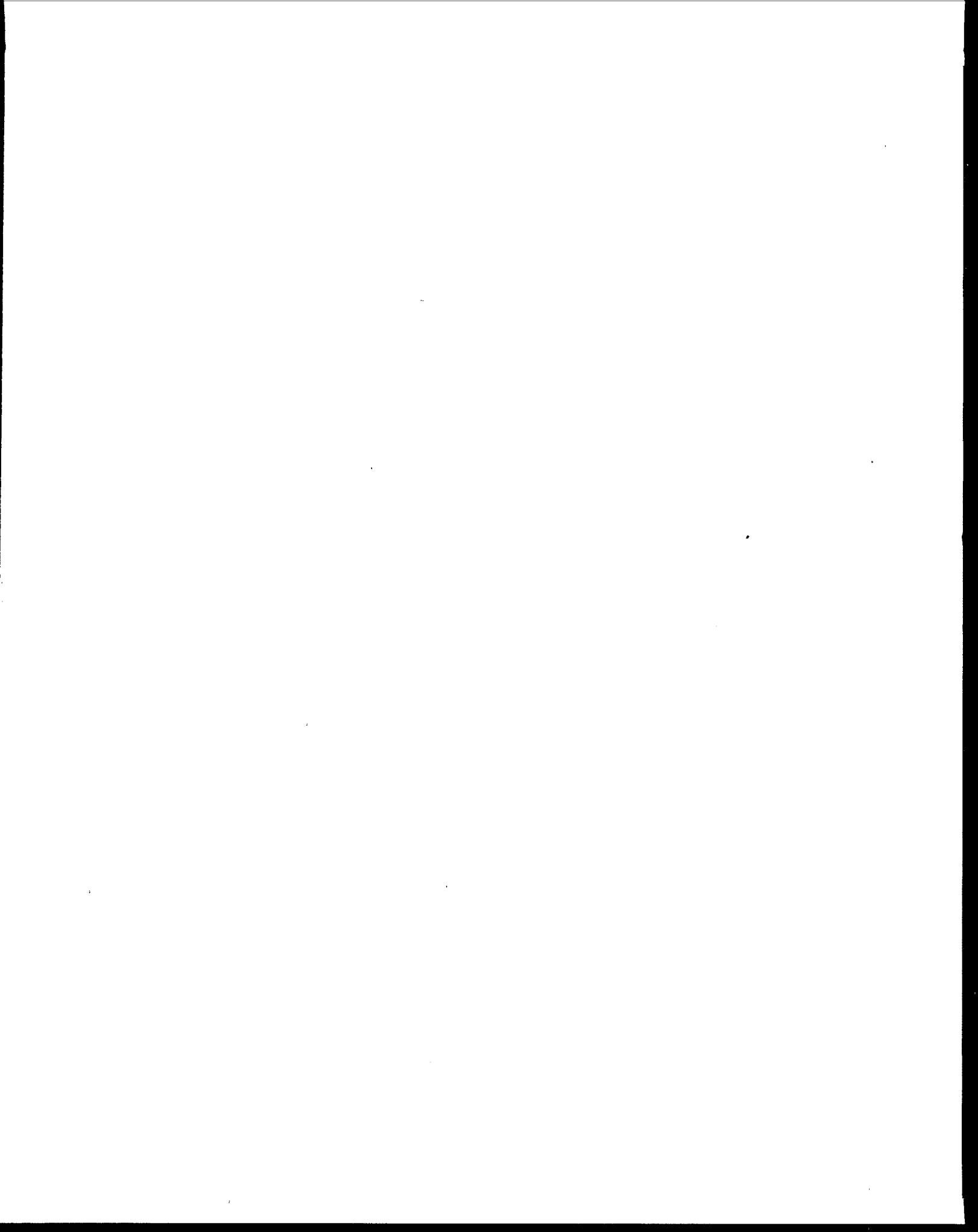
TABLE 302.4.—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

Hazardous substance	CASRN	Regulatory synonyms	Statutory			Final RQ	
			RQ	Code†	RCRA Waste No.	Category	Pounds (Kg)
F030			1*	4	F030	X	100 (45.4)
*Used Oil is petroleum-derived or synthetic oil including, but not limited to, oil which is used as a: a) Lubricant (engine, turbine, or gear); b) Hydraulic fluid (including transmission fluid); c) Metalworking fluid (including cutting, grinding, machining, rolling, stamping, quenching, and coating oils); or d) Insulating fluid and coolant and which is contaminated through use or subsequent management.							

[FR Doc. 85-27901 Filed 11-27-85; 8:45 am]
BILLING CODE 6560-50-M









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